University of Alberta

Self-Concept Orientation and Response to Agentic and Communal Advertising Messages

By

Maureen Evelyn Hupfer ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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Maureen Hupfer

MHupfer

McMaster University
Michael G. DeGroote
School of Business
1280 Main Street West
Hamilton, Ontario
Canada L8S 4M4

Date: Oct 16/2000

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Self-Concept Orientation and Response to Agentic and Communal Advertising Messages submitted by Maureen Evelyn Hupfer in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Marketing.

Dr. Richard Johnson

Dr. Adam Finn

Gerald Häubl
Dr. Gerald Häubl

Dallas Cullen
Dr. Dallas Cullen

Janet Fast
Dr. Janet Fast

Eileen Fischer
Dr. Eileen Fischer

Date: OCT 15/2000

ABSTRACT

This research tests the gender role assumptions of the selectivity hypothesis by directly measuring aspects of self-concept rather than assuming them as the consequence of biological sex. For this purpose, new measures of Self- and Other-orientation have been developed and validated. An experimental test of the self-concept orientation hypothesis finds that these constructs are significant factors in certain judgment responses to agentic and communal advertising messages. By comparison, null effects are found for the selectivity hypothesis judgment predictions. The pattern of results for memory dependent measures is far more complex and the possibility of a four-way interaction among Sex, Message, Self and Other is raised. In addition, support is found for the view that Self- and Other-orientation function not only as constellations of personality traits but also as individual difference variables in cognition.

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CHAPTER 1

INTRODUCTION

In 1988, Meyers-Levy proposed that sex differences in judgments could be explained by gender roles. As first described, the selectivity hypothesis was grounded on the assumption that the male agentic role was characterized by concern for the self, while the female communal role typically embraced concern for both the self and others (Meyers-Levy 1988 1989). Hence the implications for advertising strategy were asymmetric. Because of their attention to both the self and others, females responded favourably to both agentic and communal appeals. However, because the male agentic role did not incorporate communal concerns, only agentic advertisements were effective with male consumers. The possibility that gender roles could be related to male and female memory for agentic and communal messages was not explored.

Subsequent research conducted by Meyers-Levy and her colleagues on gender differences in information processing did examine recall and recognition, but not in conjunction with the manipulation of advertising messages according to agentic or communal information. Instead, the focus shifted toward investigation of gender differences in response to stimulus and task factors (e.g., Meyers-Levy and Sternthal 1991; Meyers-Levy and Maheswaran 1991). Females were found to exhibit a lower threshold for message elaboration and make more extensive use of message cues than did males. Males were described as selective and heuristic information processors who relied on cues made highly available through salience or reference to the self. More recently, the gender role interpretation of selectivity hypothesis results has been augmented with

Meyers-Levy's proposition that biological differences in cortical organization play a role in male-female differences in the processing of advertisement information (1994).

The possibility of biochemical antecedents notwithstanding, the gender role interpretation is problematic in its failure to appreciate the important theoretical distinction between biological sex and gender as a socially constructed category. This confusion of sex with aspects of gender identity has important marketing implications, not the least of which is its contribution to the maintenance and perpetuation of stereotypes in advertising practice. In terms of advertising effectiveness, marketers are safe in following the communication strategies implied by the selectivity hypothesis when they know their targets are agentic males or communal females. Furthermore, any market segment that contains both agentic and communal consumers (such as a mass market context or a male segment that contains both agentic and communal men) can be reached effectively with the agentic appeal prescribed by this hypothesis because communal consumers are said to be equally receptive to agentic or communal appeals. However, practitioners who rely upon the Meyers-Levy recommendations to communicate with female professionals may forfeit this lucrative market. Quite possibly agentic rather than communal in orientation, these women may not be reached effectively with communal appeals.

The goal of this thesis, therefore, is to test the assumptions of the selectivity hypothesis in a manner that examines aspects of gender identity independently of biological sex. Accordingly, the self-concept orientation hypothesis proposes that rather than biological sex, it is the individual difference variables of agency and communion that are related to observed gender differences in information processing. Chapter 2 summarizes anecdotal evidence that points toward the necessity of testing the selectivity hypothesis assumptions, while Chapter 3 provides a detailed review of this research stream. Because such a test requires that agency and communion be measured rather than assumed as the direct consequence of biological sex, Chapter 4 investigates existing gender identity measures as possible operationalizations of these constructs. Existing measures, however, are rejected as unsuitable. The process by which new measures of agency and communion (the Self- and Other-orientation Scales) have been developed and validated is discussed in Chapter 5. Next, Chapters 6 and 7 summarize and interpret the vast social psychology and consumer behaviour gender difference literatures according to a Self- and Other-orientation framework. Chapter 8 then describes a test of the self-concept orientation hypotheses in the context of an advertising experiment. Significant relationships are found among Self-orientation, Other-orientation and subjects' judgments about and memory for the experimental agentic and communal ads. Finally, Chapter 9 consists of a brief conclusion that summarizes results, discusses their implications for advertising practice, outlines outstanding methodological issues and future research directions, and highlights the contribution of this thesis to the marketing and social psychology literatures.

CHAPTER 2

WHY STUDY GENDER ISSUES IN ADVERTISING?

INTRODUCTION

One of the most widely used demographic segmentation variables, gender also has proven problematic for advertisers who wish to communicate effectively with male and female target audiences. As one commentator remarked, "what's good for the goose may gag the gander" (Dortch 1994). Particular attention has been devoted to the female consumer since the onset of the feminist movement in the late 1960s. Entering the North American labor force at an unprecedented rate, the working woman's newly achieved independence and discretionary income made her a viable target for cars, life insurance, and other financial services. By the late 1970s, mainstream women's fashion magazines such as *Cosmopolitan* were able to sell advertising space to automobile manufacturers and brokerage houses that only five years earlier would not have considered a female audience (Graham 1979, p. 145).

Two decades later, further social and economic changes have cemented the importance of the female market segment. According to the IRS in 1997, 40% of Americans with assets over $500,000 were women (Del Prete 1997, p. 5). By 1998, Capital Publishing had found that women controlled 60% of the wealth in the United States and that 85% of women would have sole responsibility for their finances at some point in their lives (Kerwin 1998). Capital responded to the needs of female investors by launching *Equity*, a personal finance magazine for women.

IBM US Marketing and Distribution forecast 1996/96 female spending on information technology at $21 billion (Pinkerton 1995), while MCI Business Markets has found that women account for approximately half of their target for telecommunications and management information systems technology (Kondo 1995). Women also are important to automobile manufacturers, comprising almost half of the principal drivers of newly purchased cars (Candler 1991).

The sports market for women has grown rapidly, with 1996 marking the third consecutive year in which women spent more on athletic footwear than men (Miller 1997a, p. 1). Statistics from the National Golf Foundation further point to an important female segment. Approximately 38% of women golfers hold professional or managerial jobs, and 25% report income in excess of $50,000 (Triplett 1996, p. 2). Magazine publishers now are targeting the female athlete with dedicated publications; *Conde Nast Sports for Women* and *Sports Illustrated Sport/Women* both were launched in 1997 (Miller 1997a, p. 1). In addition, women have become important as sports fans. The National Football League, for example, has received positive response to their Women's Initiative and reported in 1988 that women accounted for 43% of their fan base (Littman 1998).

Meanwhile, marketers voice mounting levels of consternation as female buying power continues to increase while their strategies to capture this lucrative market remain less effective than they desire. "The 90s woman has more money to spend and is a more educated and sophisticated consumer than ever before. She would like to see that mirrored in marketing efforts to her. She does not. Poll after poll, study after study, focus group after focus group speak to women's discontent with products, selection, quality, service, retailing and advertising" (Leeming and Tripp 1994, p. 1).

The latest gender-related marketing challenge concerns Web usage. As female internet participation has increased, the age-gender gap between on-line (young males) and catalogue shoppers (middle-aged females) has narrowed (Korgaonkar and Wolin 1999; Oberndorf 1999). Mosley-Matchett noted early in 1998 that with women accounting for 40% of internet users, the relevant question had become one of attracting women to firm Web sites rather than one of encouraging internet participation. She argued that males and females did not differ with regard to the need for "relevant information" and "compelling format" but added that on-line marketers had to emphasize "relationships, community and trust" when women were targeted.

Major Web retailers including L. L. Bean, Lands' End, and J. Crew appear to have heeded this advice and have linked their sites to Internet communities for women such as iVillage, Wire Networks, HomeArts and AOL Studio's Electra (Briones 1998). However, only 19%f of women actually buy on-line, compared with 32% of men. As iVillage's Allison Abraham notes, "No one has cracked the code yet for the way women want to shop on-line" (Briones 1998, p. 10).

It is not only the female consumer who is a "moving target" (Bartos 1982). Although little research concerning male response to gender-specific marketing strategies appears to exist, marketers have noted and responded to changes in male roles and purchase behaviour. North American men as well as women are buying more frequently those goods traditionally purchased by the opposite sex, and unisex products such as CK One perfume are becoming more popular (Teather 1995). Advertising expenditures for men's haircare, fragrance and other toiletries have doubled in the last year; both traditional and on-line retailers such as FashionMall.com are targeting male shoppers (Cardona

2000). According to research firm GFK, men are starting to behave more like female shoppers. Men are doing more grocery shopping than ever before, and have become as brand-conscious as women. In several product categories, such as breakfast cereals, OTC drugs, beer, soups, soft drinks, snacks, seasonings and spices, men are making brand choices. Men also are doing more household chores and spending more time with children (Teather 1995).

The "New Man" has emerged in Great Britain as well (Elliott, Eccles and Hodgson 1993), where nearly 90% of men shopped for groceries in 1992, compared with less than 80% in 1980 (Dwek 1997). One-fifth of the men surveyed in Mintel's 1994 report did their shopping alone. Similar to North American males, British men are doing more cooking, cleaning and laundry (Dwek 1997). Following 20 years of sweeping social change, "once distinct gender roles have become mingled and blurred" (Men's Health 1989, p. 1).

The problems that changes in gender roles have posed for marketing strategy appear to reside not so much in developing products that appeal to both sexes but in effectively communicating that message (Teather 1995). Trade journals reiterate the need to better understand male and female interests if effective advertisements that "translate" across gender lines are to be developed (Dortch 1994). Starch reports, for example, that men do not respond to food advertisements with recipes as favourably as do females, and are more interested in benefits such as flavor and health. "Learning to match the right language with the right sex as gender roles blur" appears to be the challenge of the 90s ("Beyond Gibberish" 1993, p. 17).

Still, certain marketers persist with advertisements for gender-neutral products that exploit sexual appeal, such as General Motors' launch for the Cadillac Catera. First aired during Superbowl Sunday 1997 and quickly pulled, the ad featured scantily-clad supermodel Cindy Crawford (Cato 1997, p. E1). Although the car was expected to appeal to both professional women and men (Yohemas-Hayes 1997, p. E14), Jean Halliday of *Advertising Age* was probably correct in noting that "It shouldn't take a genius to figure out that Cindy Crawford in high leather boots and a short skirt wouldn't appeal to educated professional women" (Cato 1997, p. E1). Information technology firms also have been criticized for "moronic cheap pitches about sex and gender" and warned that such tactics are "counterproductive in an IT world increasingly populated by women" (Melymuka 1999, p. 53). Nor should we be surprised that men might be offended by the 90s advertising trend toward competent females controlling male "himbos", as in the advertisements for Diet Coke that feature female office workers leering at shirtless male construction workers (Dwek 1997, p. 11).

Despite the attention that gender has received, practitioners continue to debate its importance to marketing strategy. Many firms and industry commentators insist that understanding gender is a key factor in marketing success, while others rank its importance below other segmentation variables such as age, income, education, and lifestyle (Bartos 1982; Burton 1995; Cleaver 1988; Kondo 1995; Marketing 1998; Pinkerton 1995; Rickard 1995; Serafin 1994). On the surface, increasingly blurred role distinctions would appear to argue against the importance of gender as a marketing issue. However, the prominent position that discussions of gender occupy in trade and practitioner journals cannot easily be reconciled with the view that gender is only a minor consideration in advertising effectiveness. In fact, it is entirely possible that debate regarding gender and advertising effectiveness persists because gender has become of greater rather than lesser importance as male and female roles continue to shift. Clearly gender is a long-standing source of confusion for marketers.

In order to better understand the manner in which gender has been addressed by advertisers, Chapter 2 summarizes practitioner commentary concerning gender issues in advertising, with particular attention devoted to the "problem" of the female consumer. Next, academic marketing literature concerning gender differences in information processing is introduced and critiqued. Specifically, it is proposed that practitioners who construct gender-specific advertising appeals according to the selectivity hypothesis (Darley and Smith 1995; Meyers-Levy 1988 1989; Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991) are in danger of alienating the working female audience they wish to attract. This proposition is supported by anecdotal evidence, primarily in the form of recent advertisements targeted toward women. These advertisements demonstrate that many messages are inconsistent with selectivity hypothesis recommendations, especially when it appears that an independent and goal-directed female audience is targeted. One might conclude that these practitioners are misguided, but it is also possible that they operate according to an alternative conceptual basis that distinguishes between biological sex and psychological gender identity.

It is precisely this fundamental difference between biological sex as an immutable category and gender identity as an ever-changing social construction that the selectivity hypothesis fails to address. Because of this oversight, existing marketing research can provide little more than temporary solutions to problems that will change as rapidly as the gender roles on which current theory is based. Chapter 2 concludes with the recommendation that the selectivity hypothesis be revisited in a manner which examines gender identity independently of biological sex, and that certain aspects of gender identity be reconceptualized according to individual differences that promise greater theoretical staying power.

THE SPECIAL "PROBLEM" OF THE FEMALE CONSUMER

Practitioners agree on the importance of female consumers, but opinion concerning the best methods for communicating with them is sharply divided. Since the 1970s, marketing practitioners have argued that female role change has necessitated corresponding adjustments in advertising strategies. "With women's roles changing so rapidly advertisers are struggling to create new images which relate to the everyday experiences of American women" (Graham 1979, p.141). In response to what she described as the "quiet revolution" in the female role, Bartos outlined her "New Demographics" segmentation scheme in which she categorized women as stay-at-home housewives, plan-to-work housewives, just-a-job working women and career-oriented working women. Marketers who ignored changes in female attitudes and perceptions, she argued, would experience "marketing underachievement" while those who reexamined "outmoded assumptions" would "reap the benefits of discovering new opportunity markets" (Bartos 1982, p. 66-67). More recently, IBM US Marketing and Distribution has concurred that messages do need to be targeted toward women specifically, and has started to advertise in women's magazines (Pinkerton 1995). Strategists at MCI Business Markets agree, but report that reaching women can be a "vexing" and "touchy" task (Kondo 1995).

Other practitioners maintain that male and female targets do not necessarily warrant distinct advertising strategies. Many marketers are faced with the task of repositioning products previously considered more appropriate for one sex or the other (Bellizzi and Milner 1991), but argue that this challenge requires not so much separate advertising campaigns directed toward men or women as it requires replacing traditional gender positioning with a gender-neutral appeal. Ruiz (1994), for example, notes that professional women have become an increasingly important market in Mexico for products and services such as credit cards, air travel, and alcoholic beverages. She argues that the products themselves are now normally regarded as gender-neutral, and that firms who want to increase their share of the female market need to drop their traditional male positioning strategies.

Many firms who have experimented with gender-specific campaigns report disappointing results. Life insurance companies, for example, were among the first to create gender-specific marketing strategies during the 1970s (Graham 1979), but practitioners in these industries continue to debate the effectiveness of their appeals (Burton 1995). Problems with stereotyped graphics and copy have plagued the financial service industry's female-specific direct marketing campaigns (Cleaver 1988). According to Ogilvy and Mather Direct, income, age, lifestyle and family status are more important segmentation variables than gender alone. Women may like to see successful role models in ads, but are annoyed by "women only" tactics (Pinkerton 1995).

Automobile manufacturers also are anxious to compete effectively in the burgeoning female market (Candler 1991), but divided opinion concerning the need for gender-specific strategies characterizes this industry as well. For example, Ford has recently opened a Women's Marketing and Product Office with a mandate of being more sensitive to the female buyer in everything from advertising to product design. In Canada, in conjunction with Chatelaine magazine, Ford offers sessions at their dealerships which educate women about vehicle maintenance, financing and personal as well as family safety. Ford also sponsors the CIBC Run for the Cure, a fundraiser for breast cancer research. The chief engineer at Nissan, however, disagrees with gender-specific strategies and believes that good ergonomic design "works for everyone" (Cato 1997, p. E1). Strategists at McCann/SAS, the agency responsible for GMC Trucks, have argued that positioning cars with respect to gender is unnecessary, but Subaru and other manufacturers have created "role reversal" commercials to target the female consumer (Rickard 1995; Serafin 1994). Subaru's advertisement for the Impreza featured a woman claiming "Every guy I know thinks he knows everything about cars and everything about the '69 Mets," and proceeding to demonstrate her knowledge of both baseball and the Impreza's features (Goldman 1993). After sales fell, the effectiveness of the role reversal strategy was questioned and the advertising agency (Wieden and Kennedy) was fired. However, it is unclear as to whether the advertisement, which departed from Subaru's previously successful message of "Inexpensive. And built to stay that way," played a major role in falling sales. Subaru also faced increased competition from Japanese and German automobile manufacturers.

ACADEMIC STUDY OF GENDER ISSUES IN ADVERTISING

In 1977, a special issue of the *Journal of Marketing* (July) addressed the implications of female role change for marketing theory and practice. Early academic investigation of advertising gender issues consisted primarily of content analyses and documentation of stereotypic female representations, and this form of analysis continued to dominate gender issues research in marketing through the 1970s and early 1980s. After an early flurry of research activity, academic interest in gender issues and advertising appears to have subsided, at least in terms of published research (Artz and Venkatesh 1991). Artz and Venkatesh have drawn attention to the irony inherent in academia's neglect of gender issues at a time when marketing practitioners and the popular media devote ever greater attention to these concerns. Whatever the cause of apparent disinterest among academics, Artz and Venkatesh contend that gender research must move outside its current "theoretical vacuum" if it is to respond to even the "old" questions concerning sex-role stereotypes with anything more informative than mere documentation of their prevalence.

The selectivity hypothesis concerning gender differences in information processing, discussed in greater detail in Chapter 3, constitutes one such attempt to provide a theoretical foundation for gender research in advertising (Darley and Smith 1995; Meyers-Levy 1988 1989 1994; Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). Females have been shown to exhibit a lower threshold for message elaboration than males. In addition, the male information processing strategy is selective while the female strategy is characterized as comprehensive with greater attention to peripheral cues. Although Meyers-Levy has begun to explore biological explanations (1994), these observed differences in information processing strategies have been attributed primarily to differences in traditional gender roles. While the male agentic role is characterized by concern for the self, the female communal role typically embraces concern for both the self and others. Hence the implications for advertising strategy implications are asymmetric. Because of their attention to both the self and others, females are expected to respond to both agentic and communal appeals. However, because the male agentic role does not incorporate communal concerns, only agentic appeals are expected to be effective with male consumers.

The selectivity hypothesis is problematic in its failure to appreciate the important theoretical distinction between biological sex and gender as a socially constructed category. As reviewed in Chapters 3 and 5, the social psychology literature has demonstrated clearly that biological sex does not dictate psychological gender in terms of "masculinity" or "femininity", nor does sex specify the particular constellations of personality or character traits that have been historically identified and culturally stereotyped as masculine and feminine. Not all men are agentic and not all women are communal. Men may be communally oriented, women may be agentic, and members of either sex may be equally balanced with respect to agentic or communal traits. Feminist and cross-cultural psychologists also believe that the relationships between sex, agency and communion vary with class, religion and ethnicity (e.g., Auerbach, Blum, Smith and Williams 1985; Collins 1997; Crawford 1997; Hare-Mustin and Marecek 1988; Kim, Triandis, Kâğitçibaşi, Choi and Yoon 1994; Lott 1993; Markus and Kitayama 1991; Stack 1986; Triandis 1995).

This confusion of sex with aspects of gender identity has important marketing implications, not the least of which is its contribution to the maintenance and perpetuation of stereotypes in advertising practice. In terms of advertising effectiveness, when marketers are concerned with either agentic males or communal females, they are safe in following the communication strategies implied by the selectivity hypothesis. Furthermore, any market segment that contains both agentic and communal consumers (such as a mass market context or a male segment that contains both agentic and communal men) can be reached effectively with the agentic appeal prescribed by this hypothesis, because communal consumers are said to be equally receptive to agentic or communal appeals. However, practitioners who rely upon the Meyers-Levy et al. recommendations to communicate with the professional or working woman may forfeit this lucrative market. Quite possibly agentic rather than communal in orientation, this woman may not be reached effectively with the communal appeals recommended by the selectivity hypothesis. As discussed below, this supposition is supported by anecdotal evidence concerning current advertising practice that suggests certain practitioners do not believe the communal appeal is always the best choice for female target audiences.

COMMUNICATING WITH GENDERED AUDIENCES: ADVERTISING PRACTICE

How, then, have advertisers attempted to match language with gender? Certain advertisers may have been aware of the selectivity hypothesis, introduced to the practitioner audience via Sternthal's discussion of gender response in *Marketing and Media Decisions* (1986). However, appeals constructed on the basis of the agentic/communal role distinction predate the selectivity hypothesis research stream; advertisers were probably well aware of stereotypes that attribute independence to men and affiliation to women. As Bonelli argues with regard to sex-role stereotyping in fragrance advertising:

> when advertisers target women, they use complex, appearance-related

> emotional appeals. A pattern of stereotyping emerges which characterizes women as externally or "other" oriented, concerned primarily with men. Conversely, when advertisers target men, they use simple, ego gratification emotional appeals. The appeals stereotype men as internally or "self" oriented, concerned primarily with themselves (1989, p. 268).

In a similar vein, the 1998-2000 Platinum Mastercard print ad campaign targeted females with a communal message and males with an agentic theme. The communal message features a photograph of a woman and her mother seated side by side in a pub, with the following copy: "plane tickets to the town where she was born: $1,200…train to the house where she grew up: $63…pints at the pub where she met your dad: $8…finally understanding where your mother was coming from: priceless". The concluding tag line notes, "there are some things money can't buy. for everything else there's MasterCard." In contrast, the agentic ad contains a photograph of a narrow gravel road in the Italian countryside over which is superimposed the shadow of a man holding a bicycle. The copy reads: "18 speed bike: $1,225…shipping bike to italy: $235…map of tuscany: 9,000 lira…seven days without e-mail: priceless" and concludes with the same tag line.

In general, the traditional approach to targeting women relies on the "unspoken assumption" that their primary role is to care for the emotional and physical needs of their husbands and families" (Bartos 1982, p. 245). Health service organizations appear to believe that the communal appeal is useful for encouraging compliance among women. For example, the American Liver Foundation ran print ads that featured a jaundiced woman saying, "After I picked up hepatitis A on vacation, I felt terrible. When I learned I could spread it to my family, I felt even worse." Furthermore, when the target audience shares the assumption of feminine nurture, a communal appeal may be very effective. For example, the California Milk Processor Board found that an ad featuring a grandmother cooking "with love and milk" was well received and resulted in increased sales among their Hispanic female segment. "Very traditional and reminiscent of the '50s", these ads emphasized "the nurturing relationships of grandmothers, mothers and daughters, on family values, on honoring the mother's caregiving role in the home" (Maso-Fleischman 1997, p. 14).

The financial services industry also has taken advantage of a relationship-focused appeal to reach its presumed female target, as this example from IEEE Members' Life Insurance demonstrates: "We're both paying for our home, our car, and our living expenses. So, naturally we want to protect what we have...and what we're working for....Our term insurance can protect your entire family – you as a member, your spouse and eligible children" (Nelson 1994, p. 23). Trimark's Mutual Fund campaign directed toward women used a similar strategy: "Life would be simpler if the only person you had to look after was you. But would it really be living? Your family means everything to you. So when it comes to your children's education, you'll do anything to help. But what about your parents? Have you talked to them about their future? Will you be able to support them, if necessary, and still retire comfortably?" Within the framework of a relational message, State Farm Insurance similarly acknowledges that women now play many roles. "Years ago, the only insurance a women had was her husband. These days, what kind of women need to have life insurance? Women who manage companies. Women who manage households. Women who somehow manage. Women with children. Women with husbands. Women without husbands. If you think you may be one of them, simply call your State Farm agent."

According to Phil Sawyer, reporting on the 5th Annual Starch Automotive Advertising Study, women are much more likely than men to respond to ads that focus on relationships and how an automobile will fit the family's lifestyle (Serafin 1995). Presumably Sawyer had advertisements in mind that were similar to those created for Chevrolet's Tried, Tested and True campaign. A full page motion-blurred image of a woman, tugging her violin-toting child along by the hand as they run, sits alongside copy that touts the safety features of the 1996 Cavalier. These include ABS brakes, roadside assistance, front and rear crush zones, and child security locks – "well of course". The 1997 Chevrolet Malibu advertisement reiterates this theme, claiming that "The biggest reasons for buying a new Malibu are the little ones."

Interestingly, a television ad in the Tried, Tested and True campaign featured a father who helped his son complete his newspaper deliveries during a downpour. How Sawyer or Meyers-Levy would explain this communal male is unclear. Furthermore, these kinds of messages are appearing with greater frequency. Tylenol's 1999-2000 print campaign, with a man holding his sleeping daughter, tells fathers there is "nothing to add but a kiss," while ScotiaMcLeod's message features a young father tossing his son in the air and copy urging consumers to invest in what they value most.

Unfortunately, because the selectivity hypothesis resorts to stereotypic role constructions to explain information processing differences, practitioners who apply the theory in a heavy-handed manner may find themselves faced with angry consumers who perceive their campaigns as sexist. As the IEEE, Trimark and Chevrolet examples demonstrate, this need not be the case. Nevertheless, the potential for marketing fiasco is very real, as Puritan Oil learned when they responded to *Good Housekeeping*'s 1988 repositioning strategy. In an effort to boost advertising revenue, *Good Housekeeping* launched a campaign in which they described their typical reader as the "New Traditionalist".

> She started a revolution – with some not-so revolutionary ideals. She was searching for something to believe in – and look what she found: Her husband, her children, her home, herself. She's the contemporary woman who has made a new commitment to the traditional values that some people thought were old-fashioned. She wasn't following a trend. She made her own choices. But when she looked over the fence she found she wasn't alone. In fact, the market researchers are calling it the biggest social movement since the sixties....America is coming home to *Good Housekeeping* (Nelson 1994, p.106-111).

Modifying their previous health-oriented message of "Puritan, Your Oil for Life," Puritan attempted to appeal to *Good Housekeeping*'s "New Traditionalist" with copy reading "The way to my man's heart is through his stomach," and a tag line of "Puritan, Make it His Oil for Life." Furious "New Traditionalists", "Old Traditionalists", and men bombarded Puritan with calls and letters voicing their anger with Puritan's outdated and stereotypic positioning.

Regardless of whether they are "Old" or "New Traditionalists", stay-at-home or plan-to-work housewives, just-a-job or career-oriented working women, women have consistently objected to stereotypic imagery. As Cindy Tripp, editor of *About Women* (a monthly newsletter about women and marketing) remarks, women "don't want things that are pretty and pink" (Del Prete 1997, p. 21). Proprietary research conducted by Bartos revealed that all four of her "New Demographic" segments responded negatively to traditional housewife imagery and reacted positively to more contemporary role treatments (1982, p. 249). Women have also expressed annoyance with advertisers that erect rigid boundaries between "housebound housewives" and "committed career women". Women are not "inanely obsessed with white wash and clean floors, nor are they "archetypal" executives who dress in Calvin Klein and tote briefcases ("What turns" 1984, p. 30). As recently as 1994, Leeming and Tripp deemed it necessary to advise marketers to avoid the outdated "white wash" and "clean floor" stereotype (1994, p. 5). Advertisers are still singled out for their reliance upon stereotyped images of women. Frances Lears, publisher of *Lears'* magazine, writes:

> We are in need of new icons in advertising: women with vitality, housewives with sex, women who indeed have a brain in their heads, who care about the world around them, who think about making money and loving and being loved, not just about clean bathrooms and the comparative porosity of paper towels (Lears, foreword in Nelson 1994, p. x).

Instead of confining themselves to the communal appeal recommended by the selectivity hypothesis, some practitioners have drawn a distinction between women who are homemakers and those who are working women. Noting that advertisers often chose to use the "male mode" of rationality and control to reach the new liberated woman, Barthel attributes the dichotomy of approaches to new female frames of reference that resulted from the women's movement. Traditional messages continued to play on values of love and duty, but a new rhetoric of investment, strategy, and revolution suggested that the liberated woman who purchased the advertised product now had previously inaccessible “realms of activity” within her grasp (1988, 30-31). While an emphasis on family and friendships is still recommended for the homemaker, Leeming and Tripp contend that when working women are targeted, it is wise to avoid “his and hers” assumptions (1994, p. 5). Similarly, Nelson recommends that marketers “divide their approach to women into two sections, homemaker and career woman. Or, if you want more dynamic terminology, passive and active (or passive and assertive)” (1994, p. 29). When trying to reach the 90s woman, advertisers should emphasize benefits that appeal to self-interest (Nelson 1994, p. 56) and remember that she “responds to advertising that appears to be talking to her alone” (p. 10). Executives at Young and Rubicam agree: “‘Single women respond to advertising messages that respect their intelligence, honour a myriad of lifestyle choices and affirm their self-esteem and independent spirit’” (Jones 2000). Metropolitan Hotels appears to have such women in mind. Their 1999-2000 print ad campaign promoting their weekend spa facilities is written in the style of a “personals” ad and describes a “single urban professional…hobbies include work, work and more work…married to her work…seeks self”.

Other commentators have remarked upon the trend toward powerful action-women in movies like *GI Jane* and *Aliens*, or television shows such as the *Xena: The Warrior Princess* (Miller 1997b, p. 1). Mainstream marketers are taking advantage of this trend, with Diesel showing a women karate-chopping a table in half, and Coca-Cola featuring a mother who transforms herself into a superheroine. Evian Water also exploits this theme: “Within me lives a superhero who is swift and comes to the rescue of those who need her. She prefers, however, not to wear a cape. Within me lives the power of nature. Natural spring water from the French Alps that's as refreshing as the sky. And perfect for replenishing a superhero." According to Tim Rothwell, Universal's vice-president for domestic sales, the "take charge kind of woman" exemplified by Xena is one with whom "a lot of girls and women identify...we realize that and we're trying to capitalize on that by positioning Xena as a powerful woman" (Miller 1997b, p. 7). Media buyers also perceive important differences between the audience for fashion and beauty magazines and readers of newly launched sports magazines for women. While a reader of *Cosmopolitan*, for example, might be described as a woman "whose life, to a large extent, is a function of relationships with men", the "new image" of *Sports for Women* and *Sport/Women* "is about a woman's own feelings of self-worth" (Pogrebin 1997, Section 3 p. 1).

When appealing to the new "actionwoman", as Barthel describes her, sports clothing advertisers are often "much more straightforward and serious, the sort of technical rhetoric usually reserved for products aimed at men" (1988, p. 136). They also tend to target women with an agentic or self-oriented appeal, as this Nike running shoe advertisement demonstrates:

> All your life you are told the things you cannot do. All your life they will say you're not good enough or strong enough or talented enough. They'll say you're the wrong height or the wrong weight or the wrong type to play this or be this or achieve this.
>
> THEY WILL TELL YOU NO. A thousand times no until all the no's become meaningless. All your life they will tell you no. Quite firmly and

> very quickly. They will tell you no. And YOU WILL TELL THEM YES. Your life is a series of what everyone says about you and what you say about yourself. So say yes. If you want to run, say yes. If you want a road or a hill or a neighborhood street say yes. Say you want shoes that are lightweight and durable and cushioned by Nike-Air. Yes, you say. Yes, say you want the Air Pegasus because it never says no and it never says perhaps it says YES YES YES, there is a road. And you are just the woman to run it. Say Yes (Nelson 1994, p. 89-93).

Nike's Spring 1996 advertisement for climbing shoes was similarly agentic in tone, noting that the cliffs, gaps, falls, and switchbacks encountered during a rock climb have a "sneaky way of pointing out how ridiculously alone and isolated you've made yourself. Which is reason enough to be up there. To hear your brain ask: Can I? And let your body answer: Yessir, you bet, aye aye Cap'n. Just do it." Their 1996 "If You Let Me Play" campaign also promoted self-reliance and independence: "I will like myself more; I will have more self-confidence if you let me play sports. If you let me play, I will be 60% less likely to get breast cancer. I will suffer less depression if you let me play sports. I will be more likely to leave a man who beats me. If you let me play, I will less likely to get pregnant before I want to; I will learn what it means to be strong" (Rubel 1996, p. 10). Anecdotal evidence suggests that these messages are indeed effective in creating brand awareness. Feminist writer Naomi Wolf comments that rather than passive nurture, the Nike ads present women with images of "competition, even victory, and a motto of self-reliance", and she reports that when women are asked to describe a version of feminism that is compatible with their aspirations, they cite Nike and the Just Do It advertisements with "striking unanimity" (Wolf 1994, 44-45).

The communication strategy adopted by New Balance running shoes further supports the contention that marketers distinguish between agentic or communal orientation and biological sex. During 1996 and 1997, they addressed males with the following agentic message: "How far is far enough? Far enough is where bad days become good days. Far enough is where problems become solutions. Far enough is where you're ready to turn around and go back." Another agentic message directed toward men ran as follows: "Do you live to run? Or do you run to live? Do you run until exhaustion? Or do you run until exhilaration? Does running make you more of a man? Or does running make you more of a human?" Females received a communal appeal: "You can run to become a better runner. Or you can run to become a better mother. Or a better doctor. Or a better friend. You can run to become a better runner. Or you can run to become better". However, females also were targeted with an agentic message: "'Nothing's worth that,' the naysayers laughed. 'The crack of dawn! The bitter cold! The pouring rain! Nothing's worth that at all!' 'Obviously you don't know me, then,' the woman said. 'For if you did, you'd know that I am.'" Finally, in direct contrast to the Meyers-Levy recommendations, New Balance also constructed a communal appeal for male runners: "Monday: Father. Husband. Banker. Friend. Runner. Tuesday: Husband. Banker. Father. Runner. Friend. Wednesday: Banker. Banker. Banker. Banker. Banker. Thursday: Runner. Husband. Father. Friend. Banker. Friday?" All of the ads concluded with the tag line "Achieve New Balance".

In addition to using the communal format, advertisers for financial services also are targeting women with agentic appeals. An advertisement for the Private Issue credit card, which offers an automatic 5% rebate on travel, depicted an attractive woman in a business suit, walking across the tarmac toward a plane. The copy read: "Mother asked why I charged Jack's ticket to my credit card. And I told her it's a Private Issue. She said, 'I understand completely, but don't tell your father.' Your credit card should be a Private Issue" (Nelson 1994, p. 53-55). Similarly, Connor Clark's 1999 print ad for their financial services describes a "financially independent" woman who wants to protect her success and have her investments grow "as substantially as possible".

Car manufacturers have used agentic appeals as well. For example, Volvo's All-Wheel-Drive ad, placed in the October 1997 issue of *Martha Stewart Living*, featured the tag line of "Life. Liberty. And the Pursuit of Just About Anything You Please." Targeted toward the women who account for 65% of car buyers under the age of 25 (Candler 1991), Mazda's memorable launch of the Miata roadster in 1989 was another such appeal:

> Before the spouse, the house, the kids, you get one chance. There's something you should do before life hits you in the knees with ten bags of groceries and the need for a garden hose. You should know how it feels to have the sun on your head and a growl at your back as you flick through five gears with no more baggage than a friend. This has been known since the beginning of cars. Which is why roadsters were invented. The Mazda Miata. The roadster returned.

More recently, Eagle's 1997 Talon print campaign warned readers that "power and control are the ultimate aphrodisiacs. Choose your passengers carefully". Few would be surprised at Eagle positioning this male sexual rhetoric of "pure rapture" in men's magazines, as indeed they have done. However, Eagle also saw fit to run this campaign in *Shape*. Self-described as a magazine concerning "mind and body fitness for women", *Shape* consistently emphasizes agentic values throughout its editorial and advertising content. Hence this message of power and control was appropriate for *Shape's* energetic, goal-directed, and presumably agentic readership. Eagle may have also been aware of evidence indicating that younger or "new generation" women do not differ from their male cohorts in automobile message appeal preferences (Widgery and McGuagh 1993).

CONCLUSION

Are we to conclude that those advertisers who employ agentic appeals to reach female audiences are making grave strategic errors? Why is it that Nike's advertisements strike such a resounding chord with feminist women? One might argue that advertisers who construct agentic messages simply are playing the averages, realizing that agentic appeals should reach both agentic and communal consumers. This does not explain, however, why magazines directed toward a more "traditional" female readership feature a concentration of communally oriented appeals, while publications directed toward females who are more likely to be agentic are characterized by a preponderance of agentic appeals. For example, the October 1997 issue of *Chatelaine* featured the Trimark and Chevrolet Malibu advertisements described above, while the well-heeled professional readers of *Martha Stewart Living* (Cheng 1997, p. G7) saw the Evian Water and Volvo All-Wheel-Drive ads in their October 1997 issues. Furthermore, recommendations based on the selectivity hypothesis are incompatible with the advice of marketing consultants such as Bartos (1982 1986) and Nelson (1994), who emphasize the independence and autonomy of career-oriented women – the "vexing" and "touchy" target marketers long to reach.

The male consumer has received much less attention from marketers preoccupied with female role changes. However, strategies for reaching male targets should be reevaluated. The male role also has undergone considerable change since the onset of the women's movement, but the selectivity hypothesis does not explain why practitioners such as Chevrolet or New Balance might choose to direct a communal message toward male consumers. Finally, the selectivity hypothesis provides little insight for the growing number of advertisers who wish to reach homosexual consumers by advertising in gay periodicals (Associated Press 1996, p.13; Koss-Feder 1998). It is clear that further examination of the selectivity hypothesis with regard to agency and communion is required before we can reconcile accepted advertising practice with theoretical predictions.

Most important of all is the need to build a theoretical foundation on which future scientific research and advertising practice can be based. As currently conceived, the selectivity hypothesis confounds the enduring category of biological sex with the socially constructed and shifting category of gender. Of uncertain value at present, its utility for practitioners will be increasingly questionable if commentators such as Nelson are correct in describing the "twenty-something" group as the "most gender-rejecting target that advertisers of products unrelated to gender have ever faced" (1994, p. 171). However, if the information processing results documented by this research stream can be explained by agentic or communal psychological orientation, regardless of biological sex, then the theory will be of real practical use to current and future practitioners as one that depends on enduring individual differences rather than dynamic cultural constructions.

CHAPTER 3

GENDER AND INFORMATION PROCESSING

INTRODUCTION

According to Meyers-Levy's selectivity hypothesis (Meyers-Levy 1988 1989), differences between male and female judgment and memory can be explained by contrasting information processing strategies. Males are selective information processors who rely on cues made highly available through salience or reference to the self, while females are more effortful processors who try to use all available information. Meyers-Levy attributes these differing processing strategies to gender roles that assign agentic traits such as independence and assertiveness to the masculine orientation, and communal traits such as affiliation and nurture to the feminine orientation. Traditionally, these roles have been closely associated with biological sex. Therefore, Meyers-Levy describes males solely in terms of the agentic role, and proposes that males attempt to maximize efficiency in processing information about the external world by focusing on self-related information as a heuristic strategy. Females, however, are assumed to be communal and therefore consider information that is both self and other relevant. Results that support selectivity hypothesis predictions have been obtained in consumer behaviour contexts that include evaluation of and memory for products as diverse as mouthwash, toothpaste, soft drinks, and television news programming.

Evidence compatible with Meyers-Levy's conceptualization of male-female differences in information processing has accumulated since the 1960s. Similar to selectivity hypothesis research, most of this work assumes that gender identity is determined by biological sex. According to Bakan (1966) and Carlson (1971 1972), the psychological orientations of males and females differ with regard to the dimensions of agency and communion. The male orientation is agentic, described by personality characteristics such as self-reliance and independence that are associated with a greater concern for the self than others. The female communal orientation, characterized by interpersonal affiliation and harmony, is associated with equal concern for self and others. Similarly, Gutmann (1970) and Kogan (1976) describe the male as allocentric, with an ego style that incorporates sharp boundaries between the self and the external world, while the female autocentric ego lacks such boundaries. Chodorow (1978, p. 166-167) has proposed that masculinity is defined through separation but femininity is defined through attachment; Gilligan (1982, p. 160-161) reiterates this theme, noting that women define their identities in the context of a relationship while the male "I" is defined in separation.

More recently, Markus and Oyserman (1989) have proposed that females are more likely than males to develop a self-concept in which important others are incorporated as representational elements of the self rather than as separate knowledge structures. Cultural traditions that assign dominance and assertiveness to males, and submission and passivity to females, also may contribute to observed sex differences. Because females are expected to react rather than instigate, and to satisfy others' needs before personal needs, consideration of all available environmental cues may constitute a strategy for surviving in a patriarchal social system (Janeway 1980). All of these conceptualizations of gender orientation (as determined by biological sex) are consistent with selectivity hypothesis predictions. That is, agentic males will use easily accessed self-relevant cues in a heuristic mode to facilitate information processing, while communal females will attempt to process all available information to form judgments.

Theories that cast males as more analytical and logical and females as more subjective and intuitive (Broverman, Klaiber, Kobayashi and Vogel 1968) or those which argue that women have "different ways of knowing" (e.g., Belenky, Clinchy, Goldberger and Tarule 1986) also can be incorporated within the selectivity framework. "Males may seem to be more logical because they selectively concentrate on the more focal and tangible available cues, while females may appear to be rather subjective because they comprehensively consider seemingly tangential and often subtle cues in concert with those that are more focal and apparent" (Meyers-Levy 1989).

Meyers-Levy has since augmented her original gender role interpretation with the argument that sex differences in the processing of advertisement information processing also appear to have biological antecedents in cortical organization (1994). Nevertheless, the selectivity hypothesis gender role interpretation is problematic in its failure to appreciate the important theoretical distinction between biological sex and psychological gender. In order to address these shortcomings and clarify the nature of the selectivity hypothesis research results reviewed in this chapter, the distinction between biological sex and gender will be made according to the following convention. The terms "biological sex" or "sex" will refer to the biological categories of male and female, while "psychological gender", "gender identity", and "gender" will denote the traits and behaviours associated with "masculinity" and "femininity" that are acquired through social learning and acculturation.

EMPIRICAL TESTS OF THE SELECTIVITY HYPOTHESIS

Four empirical papers examining the selectivity hypothesis in a consumer behaviour context have appeared since 1988 (Darley and Smith 1995; Meyers-Levy 1988; Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). These are reviewed in detail below.

The Influence of Sex Roles on Judgment

Meyers-Levy's first investigation was analyzed according to a 2 (sex) by 2 (self or other message orientation) by 2 (agentic or communal prime) by 2 (prime present or absent) design (1988). Male and female subjects were required to read a persuasive communication for a hypothetical new mouthwash in which message orientation was manipulated. Primes were administered after subjects had finished reading, but before they were asked to make product judgments using seven 7-point bipolar adjective scales. Factor analysis determined that four of these items comprised a unidimensional scale; these were summed to form the dependent evaluative measure.

Because it would not have been possible in the prime absent condition to produce either an agentic or communal "no-prime", it appears that the more appropriate form of analysis would have been a 2 (sex) by 2 (message orientation) by 3 (agentic prime, communal prime, no prime) design. Meyers-Levy reported that agentic and communal primes did not differ in terms of their effectiveness in activating gender roles. However, because one would expect equivalent results in the two no-prime conditions, it is possible that the 2^4 analysis underestimated differences that might have been existed between the agentic and communal prime conditions. Any analysis of the main effect for message orientation would have pooled all agentic cells (including the agentic no-prime condition) and all communal cells (including the communal no-prime condition). Because the no-prime conditions should not have differed, this pooling would have weakened a message orientation effect had it been present. Unfortunately, the reported data do not permit further investigation of this issue.

Meyers-Levy reported a three-way interaction among sex, message orientation and presence of prime. When no prime was administered the two-way interaction between sex and message orientation was non-significant and no sex differences in judgment emerged. Meyers-Levy concluded that the absence of a prime encouraged both sexes to rely upon literal information processing. Priming, however, did produce differences in evaluation in the form of a cross-over interaction between sex and message orientation. Within sex comparisons demonstrated that primed males reported more favourable evaluations in response to the agentic appeal than to the communal appeal, while the judgments of primed females were equally favourable in both message conditions. Between-sex comparisons demonstrated that males were more persuaded in the agentic message condition than were females, while females were more persuaded by other-relevant information than were males.

In a second experiment, Meyers-Levy used more obvious forms of self-oriented and other-related information, believing that this in itself might produce sex differences in processing without the use of a prime (1988). Subjects first read a soft-drink product description intended to manipulate their initial judgment such that Product B would be preferred to Product A. They were then informed that they would be asked to taste and evaluate one of the two drinks. Cups were marked A and B, with both containing the same product. Before tasting, subjects "overheard" a taped conversation with a participant from an earlier session requesting more information on the favoured drink, indicating that the previous group preferred either Product A or Product B. Hence, the complete factorial design crossed sex with self-information (positive and negative) and other-oriented information (positive and negative). Dependent measures included pre- and post-taste attitudes, and the amount of soft drink consumed.

Analysis of consumption indicated a significant main effect for other-oriented information, with more beverage consumed in the positive condition. Additional analysis established that this effect was non-significant for males and approached significance for females ($p = .12$). No other significant effects were reported for consumption.

With regard to pre-taste attitudes, main effects were found for sex and self-information. Females were more favourable in their evaluations than males, and all evaluations were more favourable when self-information was positive. Follow-up tests indicated that the main effect for self-information was significant for both males and females. Similar main effects for sex and self-information also were found for post-taste attitudes. The effect for other-information also was significant, with the beverage being evaluated more favourably when other information was positive. Consistent with predictions, males and females differed in the information sources on which they based their judgments. Males relied upon only self-information to form product evaluations while females used both self-oriented and other-related information to make judgments.

The results reported in Meyers-Levy's initial investigation of the selectivity hypothesis appear to support the prediction that agentic appeals are most effective for reaching males and that females are equally receptive to both communal and agentic appeals. However, in neither experiment were the message manipulations strongly communal or agentic. In Experiment I, agentic and communal orientation was operationalized as reference to medicinal and cosmetic attributes of the mouthwash. Pretests established that the cosmetic attributes were perceived as significantly more other-oriented than the medicinal attributes, but both were rated below the midpoint of a bipolar scale measuring self versus other orientation. In Experiment 2, the self-related information consisted of a positive or negative product description while other-related information was conveyed in the guise of a previous session's positive or negative evaluation of the soft-drink. In both cases, therefore, the female data could be interpreted as explained as the result of less weight being placed on objective or tangible attributes (i.e., taste and medicinal features) than on subjective or abstract attributes that suggested social comparison (i.e., the opinion of others and cosmetic features). Although the desire for social approval is not incompatible with a communal orientation, these results do not demonstrate that advertisers must necessarily create appeals that explicitly evoke agentic (i.e., concerned with self) or communal (i.e., concerned with self and others) roles.

Gender Differences in the Use of Message Cues and Judgments

In a second paper, Meyers-Levy and Sternthal (1991) hypothesized that women had a lower threshold than men for message elaboration and made greater use of message cues in product evaluations. Meyers-Levy and Sternthal believed that males and females did not differ in their encoding and ability to retrieve message cues. However, they hypothesized that more extensive processing among females would result in greater accessibility of inferences drawn from message cues. To test these hypotheses, they used a 2 (sex) by 3 (low, moderate and high cue incongruity) factorial design. After having read a message describing a proposed news television program in which incongruity was manipulated, subjects were asked to provide information regarding their television viewing habits. They were then given as much time as they required to recall as many statements as possible from the presented message. Subjects also judged the program's similarity to two current news shows.

Meyers-Levy and Sternthal predicted that no sex differences in similarity judgments would occur when cue incongruity was at such a low level that neither male nor female thresholds for elaboration would be exceeded. Differences were expected, however, when messages incorporated a higher degree of incongruity that would exceed only the female threshold. They also predicted that no differences would be found in recall, arguing that good recall would imply the representation of cue items in memory. However, a more appropriate test of availability would have involved recognition rather than a recall task. For a recall task, which examines accessibility, data similar to the similarity judgment results should have been anticipated (Murdock 1982; Murphy and Puff 1982; Tulving and Pearlstone 1966; Watkins and Gardiner 1982).

Analysis of the similarity judgments confirmed the predicted sex-cue interaction, suggesting that cue information was more accessible to females than males. Furthermore, these differences could not be explained by sex differences in product familiarity. Meyers-Levy and Sternthal did not expect and did not find treatment effects for recall. However, they should have expected the same pattern as for the similarity results, given that both were measures of accessibility. In any case, because the duration of recall was neither controlled nor measured, these results must remain inconclusive.

Although these results were consistent with selectivity hypothesis and elaboration likelihood model predictions, Meyers-Levy and Sternthal noted that a feature-matching explanation also could have explained their data. Even without differences in elaboration thresholds, sex differences in judgments could result if females simply placed greater weight on incongruent message cues than did males. In order to rule out the feature-matching interpretation, a second experiment was conducted in which cue elaboration was manipulated and message content was controlled. In the context of a product description for toothpaste, two negative taste attributes were included, positioned either together (high attention) or separated by other attribute information (low attention). Dependent measures included subjects' judgments of the product's taste, thought listings, and recall of taste cues. Thought listings were coded according to total thoughts mentioned, the number of taste-related thoughts generated and their serial position, and thoughts concerning hygienic and cosmetic attributes.

Meyers-Levy and Sternthal predicted that no sex differences in any dependent measures would occur when taste cues were positioned separately. However, when taste cues were placed together, they were expected to exceed the female (but not the male) elaboration threshold. Hence, compared to men, women were expected to evaluate the product less favourably, elaborate more extensively, generate more product-related thoughts, and mention taste-related thoughts earlier. Because men and women were expected to differ only in elaboration, and not in encoding of the taste cues, they again believed that no differences in recall would emerge.

As predicted, female product judgments were less favourable than male judgments when cues were presented together, while no differences occurred when the taste cues were positioned separately. Comparing within sex, male judgments were unaffected by differences in cue positioning, while females reported more favourable judgments when cues were presented separately than when they were positioned together. Similarly, women generated more taste thoughts than men when cues were presented together, while equal numbers of thoughts were generated by males and females in the separated cue condition. Within sex comparisons demonstrated that women listed more thoughts when cues were contiguous, while men were unaffected by cue positioning. Results for serial position of taste thoughts also conformed to this pattern. Recall of the two taste characteristics and other message material was unaffected by the experimental treatments and did not differ by sex. Finally, a small follow-up experiment in which two contiguous taste cues were presented early in the message extended the findings of the first two studies by examining judgments when the elaboration thresholds for both sexes was expected to be exceeded. As expected, men and women reported similar negative judgments.

None of the information processing differences reported by Meyers-Levy and Sternthal could be attributed to sex differences in product knowledge, preferences, or level of interest in the message or product. Furthermore, these differences were eliminated both when message cues were below both male and female thresholds for elaboration, and when cues elicited enough attention that both sexes' thresholds were exceeded. Meyers-Levy and Sternthal attributed these differences to the agentic/communal distinction, theorizing that their communal orientation meant women were concerned with a broader array of information pertaining to both self and others, and that their subordinate role in patriarchal culture implied a greater need and stronger motivation to pay attention to and understand subtle personal and environmental cues. They did not, however, appear to have investigated whether subjects perceived these messages as agentic, communal or neutral in nature.

Exploring Differences in Males' and Females' Processing Strategies

Meyers-Levy and Maheswaran (1991) extended their investigation of male and female information processing differences to the study of message incongruity and task factors. Although previous research had indicated that females seemed to elaborate message information more extensively than males, the strategy used by males to process and respond to messages was unclear. If men encoded fewer details than women, the sexes would differ according to the availability of ad claims. If, however, men and women encoded the same number of ad claims, but males elaborated on those claims less than women, the sexes would differ according to the accessibility of ad claims. In order to identify the origin of sex differences in processing, as well as the conditions under which these differences would emerge, Meyers-Levy and Maheswaran examined recognition and recall in low, moderate and high incongruity conditions.

Male and female subjects were asked to read an advertisement for a news program that contained information congruent with an in-depth news-show schema, as well as items that varied in level of incongruity (low, moderate and high). Selected according to pretests, the incongruent items received similar incongruity, familiarity, interest, liking, and perceived importance ratings from men and women. After subjects read the description, a recognition task containing congruent and incongruent message items and foils was administered. Subjects were then asked to recall the message as completely as possible.

Finally, viewing frequency and familiarity with the in-depth news programming format were measured. Neither of these measures differed according to sex.

Meyers-Levy and Maheswaran found that female information processing tended to be more detailed and elaborate than male processing. Signal detection analysis of congruent message items revealed that female discrimination between congruent message and foil items was superior to male discrimination, and that performance in general was poorer in the low incongruity conditions as compared to the moderate and high incongruity conditions. However, sex and incongruity interacted, such that female discrimination was better than male performance when incongruity was low, while males and females did not differ when incongruity was moderate or high. Comparing within sex, males discriminated more effectively when incongruity was moderate or high, but female discrimination between congruent message items and foils was high across all conditions. Similar results were reported for signal detection analysis of the incongruent message items and foils. Finally, analysis of the recall data indicated no significant effects for incongruent items, congruent items or intrusions.

Meyers-Levy and Maheswaran argued that when sex differences emerged, they seemed to be related to the greater male reliance upon overall themes and schemas. When incongruity was low and both processing strategies were appropriate for the recognition task, females used a more detailed processing strategy than males, who engaged in schema-based processing. These differences were eliminated when either higher levels of incongruity or the detailed retrieval required by the recall task prompted both men and women to engage in more detailed processing. Furthermore, a second study revealed that the order of the recall and recognition tasks did not alter results.

Meyers-Levy and Maheswaran believed that their results suggested that sex differences in processing strategies were "more likely to have their locus in cue accessibility than in cue availability" (p. 69). However, it was in the recognition task and not in recall that these differences emerged. Thus, the more appropriate interpretation of the results would appear to be that men and women differed in availability rather than accessibility. They noted that it was unusual to observe subjects recalling information that they could not recognize, as with males in the low incongruity condition, but proposed that males shifted their processing strategy when prompted to do so by the higher cognitive demands of the recall task. Should task demands be this important a factor in retrieval, however, one would expect to see the result of recall without recognition quite frequently, but this is a relatively rare occurrence (Zechmeister and Nyberg 1981). Furthermore, research by MacLeod and Kampe (1996) suggests that recall is more affected by the enhanced retrieval that results from cognitive elaboration than is recognition. The more detailed and effortful processing that females are hypothesized to engage in should have thus enhanced accessibility because of a more extensive network of retrieval cues. Therefore, rather than no differences at all, one would have expected sex differences in recall that were even larger than those observed in the recognition task. Because memory task results in this research stream as well as their interpretation are at odds with the psychological literature, it is clear that selectivity hypothesis predictions concerning levels of processing must be reexamined.

Gender Differences in Information Processing Strategies: An Empirical Test of the Selectivity Model in Advertising Response

Further extension of the selectivity hypothesis has examined perceived product risk and claim objectivity as possible mediating factors in a 2 (sex) by 2 (low/moderate risk) by 2 (subjective/objective claims) design (Darley and Smith 1995). Although past research had described men as logical and women as subjective (Haas 1979; Wickes 1963), the selectivity hypothesis qualified these interpretations. As selective information processors, men might seem to be more logical because of their concentration on tangible available cues. Conversely, women were seemingly more subjective because of their comprehensive information processing style that considered all available cues. Accordingly, Darley and Smith expected that when given a task in which claim objectivity was salient and time constraints encouraged heuristic processing, men would be more influenced by objective cues, while women would be equally persuaded by objective and subjective claims. The perceived risk manipulation was expected to enhance sensitivity to objective claims, because these attributes were tangible and verifiable, rather than subject to individual interpretation.

Predicting a three-way interaction among sex, risk and claim objectivity, Darley and Smith hypothesized that when risk was low, males would be more influenced by objective than subjective claims. Females, however, were expected to consider both types of arguments. When risk was moderate, females were expected to notice the increased level of risk and adjust their processing strategies to favour the more easily verified objective claims. Males were not expected to be affected by the claim treatment.

On the basis of pretest results, a weigh scale and an electric blanket were selected for the low and moderate risk conditions. To manipulate claim objectivity, tangible and intangible attributes that were equally valued and similarly rated by men and women were described in factual or impressionistic language. Heuristic processing was encouraged through use of 60-second radio advertisements for each of the four treatment conditions, and the claim objectivity manipulation was made salient by creating ads that consisted of only claims and headlines.

Darley and Smith measured three covariates (Need for Cognition, level of education, and product category familiarity) in order to rule out alternative explanations of information processing differences, and collected five dependent variables that included perceived credibility, argument quality, ad attitude, brand attitude, and purchase intention measures. Manipulation checks confirmed that subjects perceived the subjective and objective claims as intended, and that male and female perceptions did not differ.

A series of five ANCOVA analyses tested the effects of product, sex and claim on the dependent measures. The predicted three-way interaction was significant at $p < .05$ for perceived credibility, ad attitude and brand attitude, marginally significant at $p < .10$ for argument quality, and non-significant for purchase intentions. Planned comparisons (subjective versus objective claims) between females in the low risk condition indicated no significant differences in four of the dependent measures (all $p > .10$), and a marginally significant ad attitude in the subjective claims condition ($p < .10$). Comparisons between females in the moderate risk condition (subjective versus. objective claims) showed significant differences for perceived credibility, ad attitude, brand attitude and purchase intentions, and a marginal result for argument quality ($p < .10$). Thus hypothesized results for females were confirmed. Contrary to predictions, males did not respond more favourably to objective than subjective claims in the low risk condition, with a marginally significant difference reported only for perceived credibility (*p* < .10). In the moderate risk condition, one significant difference in favour of objective claims was reported for purchase intentions (*p* < .05). Neither between-sex comparisons nor contrasts within sex and between risk conditions were reported.

Although they did not explicitly examine differences between dependent measures across the low and moderate risk conditions, Darley and Smith argued that the similar male response patterns in the two risk conditions was consistent with the selectivity hypothesis. To explain why males did not respond more favourably to objective claims, they proposed that the need to balance tangible and intangible attribute evaluations according to sex had eliminated the claim objectivity effects that would normally result from the male preference for tangible attributes. Alternatively, males could have used another form of heuristic strategy, such as a "'default evaluation'" of the product category or the number of arguments presented in the ad (p. 54).

CONCLUSION

There are several reasons for challenging the selectivity hypothesis regarding gender differences in information processing. The first of these concerns the problematic mapping of gender, which is socially constructed, directly onto biological sex. While biological sex remains stable, gender is a socially mediated construct that we may expect to change in conjunction with historical and cultural shifts, and as such does not provide a solid basis for theory development. Furthermore, psychometric instruments developed to measure sex-role self-concept, such as the Bem Sex Role Inventory (Bem 1974) and the

Personal Attributes Questionnaire (Spence, Helmreich and Stapp 1975) have consistently demonstrated throughout 20 years of use that men are not necessarily agentic nor women communal. For example, in Bem's original sample of over 2000 undergraduates, she found that approximately one-third of her subjects were equally balanced with respect to their scores on masculine and feminine scales composed primarily of agentic and communal trait items (1975). Furthermore, approximately ten percent of subjects rated themselves such that their scale scores were in the opposite direction of their biological sex (i.e., agentic females and communal males). Only one third of subjects responded in such a manner that their gender identity was completely consistent with their biological sex, as in the case of a woman scoring significantly higher on the feminine than on the masculine scale, or a man scoring significantly higher on the masculine than on the feminine scale.

It also is apparent that roles, occupations and expectations of men and women have undergone considerable change since the onset of the feminist movement, but the agentic/communal view of gender roles that Meyers-Levy et al. use to interpret their results predates this cultural shift. We should not accept its application to our contemporary context without further investigation. Meyers-Levy (1989) has noted the problems inherent in a theory that relies upon the maintenance of traditional sex role distinctions, particularly when such distinctions appear to be "blurring". However, she argues that the apparent expansion of agentic-oriented concerns among women reflects "but another manifestation of females' tendency to be communal and comprehensive as they more actively share in issues and views that previously were in a domain of concern to others" (p. 255). Thus Meyers-Levy expects that the sex differences in information processing predicted by the selectivity hypothesis will endure.

The next logical step for this research stream involves determining whether it is indeed the agentic/communal distinction that contributes to sex differences in information processing or if another gender or biological explanation exists. The agentic/communal theory can be tested by investigating differences in information processing with respect to individual self-ratings of Self- and Other-orientation. For example, if the important factor is an agentic or communal orientation, irrespective of gender, we should expect that individuals who rate themselves as highly Self-oriented should respond more favourably to agentic messages than those who are low in Self-orientation. Similarly, those who are high in Other-orientation should react more positively to communal messages than those who do not rate themselves highly on this dimension.

Should Self- and Other-orientation account for differences in judgment and memory in a manner that is independent of biological sex, our understanding of the role that these factors play in information processing would be enhanced. Although relatively little is known about the proportions of agentic and communally oriented consumers that could be expected to make up a given target market, the renewed interest among social psychologists in establishing response norms on sex-role self-concept measures suggests that information concerning constructs related to Self- and Other-orientation may become increasingly available (Lavallée and Pelletier 1992; Ryan, Dolphin, Lundberg and Myrsten 1987; Yarnold and Lyons 1987). As discussed in Chapter 2, an agentic-communal explanation would have important managerial implications. More importantly, an explanation that reformulates these aspects of gender identity according to individual differences would allow the gender research stream in marketing to move beyond timedated prescriptions for practitioners toward the development of theory that incorporates Self- and Other-orientation as possible moderators of ability and/or motivation for message elaboration.

CHAPTER 4

THE MEASUREMENT OF AGENCY AND COMMUNION

INTRODUCTION

The Bem Sex-Role Inventory (Appendix 1, BSRI; Bem 1974) is the most widely used measure of psychological gender identity and the Personal Attributes Questionnaire (Appendix 2, PAQ; Spence, Helmreich and Stapp 1975) is the second most commonly used instrument (Beere 1990). Considerable debate exists among researchers as to the appropriateness of either instrument for determining the gender identity of respondents. While Bem maintains that the BSRI is adequate for the purpose of distinguishing sex-typed from non-sex-typed individuals (1993), other social psychologists have argued that because gender identity is complex and multifactorial, it cannot be measured by simple indices of agentic and instrumental or communal and expressive characteristics such as those forming the PAQ and BSRI M and F scales (Archer 1989; Blanchard-Fields, Suhrer-Roussel and Hertzog 1994; Deaux 1984; Lippa 1991; Lippa and Connelly 1990; Marsh and Meyers 1986; McCreary 1990; Spence 1984 1991 1993; Spence and Helmreich 1978 1980).

As twenty-five-year-old measures of gender identity, the BSRI and the PAQ may well be of little use in evaluating individual psychological gender. Traditional masculine and feminine gender role perceptions appear to be weakening (Holt and Ellis 1998) and female scores on both the BSRI M and PAQ M scales have risen over time (Twenge 1997). Researchers do agree, however, that the masculine and feminine scales of these instruments consist primarily of agentic/instrumental and communal/expressive traits (e.g., Ballard-Reisch and Elton 1992; Hunt 1993; McCreary 1990; Myers and Gonda 1982; Sharpe, Heppner and Dixon 1995; Spence 1991; Spence and Helmreich 1978 1980; Taylor 1984; Wheeless and Dierks-Stewart 1981). Therefore, either of the two scales may be adequate operationalizations of the agency and communion constructs upon which Meyers-Levy (1988 1989) bases the interpretation of her selectivity hypothesis results. Accordingly, in Chapter 4 the PAQ, BSRI, and published adaptations of the BSRI are reviewed with regard to their measurement properties. Issues concerning construct validity and scale multi-dimensionality are raised, and these measures are rejected as inadequate operationalizations of agency and communion. In Chapter 5, Self-orientation and Other-orientation scales that incorporate some of the BSRI and PAQ items are introduced as an alternative to published self-concept measures.

Finally, it is important from a theoretical standpoint to determine whether agency and communion can account not only for the information processing differences reported by Meyers-Levy et al., but whether agency and communion might also explain a broader range of phenomena than those predicted by the selectivity hypothesis. Accordingly, the relationships between the BSRI and PAQ scales and personality and cognition variables of potential interest to advertising research are discussed briefly. Theoretical considerations notwithstanding, the measurement of agency and communion will have little managerial relevance unless advertising audiences can be segmented on the basis of these individual difference variables. Therefore, findings that suggest opportunities for segmentation on the basis of agency and communion also are summarized.

“NEW” ANDROGYNY SCALES: THE PERSONAL ATTRIBUTES QUESTIONNAIRE AND THE BEM SEX ROLE INVENTORY

The Personal Attributes Questionnaire (Spence, Helmreich and Stapp 1975) and the Bem Sex Role Inventory (Bem 1974) were among the first of a series of new “androgyny” scales with shared assumptions that differed from previous sex-role inventories in important ways (Morawski 1987). In these new sex-role self-concept measures, masculinity and femininity were treated as psychological categories distinct from biological sex. Although these newer scales were generally similar in content to previous M-F scales, in that the masculine scale was characterized by agentic and instrumental traits, and the feminine scale was typified by communal and expressive traits, these categories were treated as independent or orthogonal in nature. Thus it was now possible for an individual’s self-description to be both masculine and feminine. In contrast, earlier bipolar M-F measures had regarded masculinity and femininity as mutually exclusive concepts, positioned at opposite ends of a continuum.

THE PERSONAL ATTRIBUTES QUESTIONNAIRE

Scoring the PAQ

The original PAQ consisted of 20 M items, 23 F items and 15 M-F items but the most widely used shorter version, developed in 1975, was composed of eight items per scale (Appendix 2, Spence 1991; Spence and Helmreich 1978; Spence, Helmreich and Stapp 1975).

Respondents rate themselves on each of the 24 items by circling the appropriate position between two poles. Scale item responses are labelled A through E and scored from 0 to 4; individual item scores are summed to form scale scores. Spence, Helmreich, and Stapp recommended a median split procedure to score the PAQ (1975). Subjects are thus assigned to masculine, feminine, androgynous and undifferentiated categories on the basis of the position of their M and F scores relative to the scale medians. Masculine individuals are designated as those with M scores higher than the M median and F scores lower than the F median, while the feminine category applies to those with scores in the opposite direction. Androgynous individuals are those with both M and F scores above the scale medians, and undifferentiated respondents are those with both M and F scores below the scale medians. Spence and Helmreich recommended that researchers use the norms that they established with the medians for both sexes over several samples. However, this recommendation often seems to have been ignored; in the cases where the scoring procedure has been made explicit, it appears that sample medians have been used much more frequently.

PAQ Measurement Properties

Reliability: Spence and Helmreich (1978) reported that the PAQ performed well on the usual psychometric tests. Alpha coefficients were .85, .82 and .78 for the Masculine, Feminine and Masculine-Feminine scales. Wilson and Cook (1984) reported similar internal reliability coefficients of .80 for both M and F scales. However, Helmreich, Spence and Wilhelm (1981) reported considerably lower scale reliabilities among high school students (.67M and .72F for males, .71M and .73F for females), and somewhat higher figures for college students (.76M and .76F for males, .73M and .73F for females). The scales were most reliable among a sample of parents (.78M and .80F for males, .77M and .79F for females). Yoder, Rice, Adams, Priest and Prince (1982) found similar internal consistency in a sample of army cadets (.74M/.76F and .74M/.65F for females; .77M/.77F and .70M/.72F for males). Test-retest correlations conducted with the army cadet sample over a 26-month period ranged from .67M and .44F among females to .41M and .43F among males (Yoder et al. 1982).

Convergent Validity: Spence and Helmreich (1978) reported moderate to strong correlations between the Masculine and Feminine scales of the shorter, more commonly used PAQ, and the long BSRI (.72 to .84 between M scales; .52 to .71 between F scales). Later studies reported similar figures (males .83M and .64F and females .84M and .70F, Antill and Cunningham 1982; .78M and .71F, Lippa 1991; .77M and .66F, McCreary and Korbanik 1994; .75 M and .66 F, Smith 1983).

Predictive Validity: Although the PAQ was developed with the intention of assessing masculinity and femininity as independent constructs (Spence, Helmreich and Stapp 1975), Spence and her colleagues soon abandoned their original position regarding the PAQ as an indicator of gender identity. They acknowledged that the instrumental and expressive traits that comprised the PAQ had been identified with stereotypic conceptions of masculinity and femininity, but they argued that gender identity was a complex and multi-factorial construct that involved far more than agentic and communal orientations. The PAQ should not, and according to their research results, did not predict broadly conceived gender-related phenomena such as sex-role attitudes, behaviours and preferences (Edwards and Spence 1987; Spence 1984 1991 1993).

When the PAQ is narrowly defined as a measure of agentic or instrumental and communal or expressive personality traits, this measure shows relatively good concurrent or predictive validity. Using regression to analyze responses from 461 females and 227 males, Holmbeck and Bale (1988) found that the PAQ M and F scales predicted instrumental and expressive behaviours as measured by their own 92-item Instrumental and Expressive Behaviour Inventory. No significant interactions were found between sex and the PAQ M and F scores. The PAQ F scale was a better predictor of the Expressive scale than was the PAQ M scale, while the PAQ M scale was a better predictor of the Lack of Instrumentality, Competitive/Assertive and Persistent scales than PAQ F. One counter-intuitive result was reported; after PAQ F was controlled, the PAQ M scale was found to be a significant predictor of the Expressive scale among females. The literature concerning the validity of the PAQ as a broad measure of gender identity versus a more narrow indicator of agentic or communal orientation is discussed further in Chapter 6.

Construct Validity - Factor Structure: Principal components analysis found evidence for a two-factor model of instrumentality and expressiveness (Spence and Helmreich 1978). Later North American examinations of the PAQ masculine and feminine items have produced results consistent with the two-factor model (Cota and Fekken 1988; Helmreich, Spence and Wilhelm 1981; O'Grady, Freda and Milkula 1979; Wilson and Cook 1984) and a two-factor structure was also found for West German students (Runge, Frey, Gollwitzer, Helmreich and Spence 1981). However, an analysis of British male and female adults suggested a three-factor solution that accounted for 46.7% of the variance (McCreary and Steinberg 1992). The first component contained 7 of 8 PAQ expressive items, while the masculine or instrumental terms were divided between the second and third factors. The second factor, which McCreary and Steinberg interpreted as self-efficacy or internal aspects of agency, contained positive loadings for *feels superior*, *self-*

confident, and *stands up well under pressure*, and negative loadings for *makes decisions easily* and *emotional* (an expressive scale item). McCreary and Steinberg believed that being "unemotional" was comparable to "being rational" or "in control", but were at a loss to explain the negative loading for *makes decisions easily* and recommended further investigation of this item. (One possible explanation for the counter-intuitive results for this item concerns the potential for a scoring error as it is the only one that is reverse-scored.) The third factor was interpreted as behavioural aspects of instrumentality, consisting of the four remaining masculine or instrumental traits of *active*, *competitive*, *never gives up* and *independent*. Similar results were reported by Palan, Areni and Keicker (1999), who found six factors (*instrumentality*, *expressiveness*, *vulnerability*, *emotionality*, *composure* and *autonomy*) in their analysis of all 24 PAQ items. Palan et al. also suggested that "masculinity" should be examined as two separate dimensions of instrumentality and autonomy.

THE BEM SEX ROLE INVENTORY

Scoring the BSRI

The 60-item Bem Sex Role Inventory (Appendix 1; Bem 1974) contains 20 masculine, 20 feminine and 20 gender-neutral traits. Respondents rate themselves on each of the 60 items according to a seven-point scale that ranges from "never true or almost never true of me" to "always true or almost always true of me." In Bem's original scoring procedure, Masculine and Feminine scores were summed and normalized for each respondent, and the respondent's classification was determined with a Student's t-ratio. Individuals were designated as masculine if they had an M score significantly higher than the F score, and feminine if their F score was significantly higher than the M score (both $|t| \geq 2.025$, $p < .05$). When these significantly different scores were in the same direction as biological sex, respondents were classified as sex-typed, while those with scores in the opposite direction of their sex were designated as cross-sex-typed. Androgynous individuals were those with approximately equal M and F scores ($|t| \geq 1$, n.s.). Bem's original scoring method also included near-masculine and near-feminine designations that captured those respondents who respectively fell between the androgynous and masculine ($-2.025 < t < -1$) and the androgynous and feminine categories ($1 < t < 2.025$).

Using the difference score classification method, Bem reported that her original Stanford (and Foothill) college samples included 6% (9%) feminine, 5% (9%) near-feminine, 34% (44%) androgynous, 19% (17%) near-masculine, and 36% (22%) masculine males. Females at Stanford and Foothill were categorized as follows: 34% (40%) feminine, 20% (8%) near-feminine, 27% (38%) androgynous, 12% (7%) near-masculine and 8% (8%) masculine. Later estimates based on the responses of over 2000 undergraduates (Bem 1975) revealed that approximately one third of respondents were "significantly" sex-typed, another third were androgynous, and fewer than 10% were cross-sex-typed. Bem did not select near-masculine or near-feminine individuals for her 1970s research.

Scoring Controversies: Soon after the appearance of the BSRI and PAQ, Spence, Helmreich, and Stapp (1975) proposed that Bem adopt the median split procedure for the BSRI. They argued that when difference scores were used, no consideration was given to the magnitude of the scale scores, and that over half of those typed as androgynous with the split method were not typed as androgynous with the difference method. Because they believed that the social desirability of the Masculine and Feminine items implied differences in self-esteem between those who scored above the medians of both scales and those who scored below the medians, they concluded that undifferentiated and androgynous individuals should not be similarly classified.

Bem therefore compared the two scoring methods and reanalyzed her previous findings (Bem 1977). She found very large differences in the classification of androgynous individuals, and smaller but important differences in the classification of masculine and feminine respondents. Although she noted that results with regard to the hypothesized link between androgyny and self-esteem were mixed, she found that individuals typed as androgynous with a median split method exhibited higher self-esteem in at least some circumstances than those classified as undifferentiated. However, research contemporary with Bem's reassessment (Kelly, Caudill, Hathorn and O'Brien 1977; Kelly and Worell 1977) indicated that self-esteem was not necessarily related to androgyny, but to its masculine component. Nevertheless, Bem adopted the median split scoring method, even though she noted that this conceptual shift had obscured the BSRI's original purpose of distinguishing sex-typed and non-sex-typed individuals. That is, individuals with significant differences between M and F scores were not necessarily distinguished from those with "balanced" scores.

In addition to overshadowing Bem's original theoretical conceptualization, the adoption of median split scoring procedures for both the PAQ and BSRI had several serious research implications, particularly when sample medians were used. By its very nature the median split method forces every sample, however small or unrepresentative, to be categorized into four groups (Sedney 1981). Certain research suggests that even large samples may be adversely affected (Briere, Ward and Hartsough 1983). The fact that the median split method is not robust to variability in scale usage and other response tendencies (Gilgen and Barnholtz 1992; Liberman and Gaa 1980) may also be an important source of error in classification. Finally, it should be noted that because the classification of respondents will depend on the group with which they are scored, experimental results cannot be generalized, norms cannot be established, and it becomes extremely difficult to describe any general characteristics associated with the four categories.

These problems are compounded by the fact that the BSRI and PAQ use the same typology, but may classify as many as 35% to 50% of respondents differently (Herron, Goodman and Herron 1983; Wilson and Cook 1984). Dissatisfied with the lack of classification agreement between scoring methods and gender identity instruments, gender identity researchers have devoted considerable attention to modification of the classification procedure. Orlofsky, Aslin and Ginsburg (1977) and Sedney (1981), for example, have proposed that the t-test should be used to distinguish sex-typed and non-sex-typed individuals, followed by some form of percentile split if researchers need to separate androgynous and undifferentiated individuals.

Regression and Two-Factor Anova: Even at the outset of the classification debate, Bem (1977) and Spence and Helmreich (1978) agreed that sex-type classification was not always necessary, and that multiple regression techniques with the M and F scales as predictor variables also were appropriate. Others agreed that the regression allowed researchers to preserve the information lost when scale scores are reduced to four categories (Blackman 1982; Hall and Taylor 1985; Hargreaves 1987; Kelly and Worell

1977; Spence and Helmreich 1979; Taylor and Hall 1982; Williams and D'Alessandro 1994). Hall and Taylor as well as Williams and D'Alessandro have noted that regression analysis allows researchers to draw the same kinds of conclusions as would be arrived at with ANOVA using the four median split categories, and if desired, graphical display and interpretation of regression results may be facilitated by grouping subjects (Luhaorg and Zivian 1995).

Unfortunately, the debate over classification issues appears to have obscured gender identity researchers' understanding of the fundamental distinction between the Bem and Spence et al. definitions of androgyny as well as the appropriate ANOVA model for the four-quadrant sex-type typology established by median splits (Hall and Taylor 1985; Taylor and Hall 1982). While Spence predicted main effects for masculinity and femininity, Bem's original "balance" conceptualization of androgyny implied a masculinity by femininity interaction. Both ANOVA and regression are appropriate means of assessing these statistically independent effects. Should researchers prefer the ANOVA alternative, the correct method is a two-way ANOVA model in which levels of masculinity are crossed with femininity. Problematically, research in this field continues to be characterized by analyses that collapse the two factors into one four-level factor of sex-type that includes masculine, feminine, androgynous and undifferentiated cells. Such a format does not permit statistically independent tests of masculinity and femininity, nor does it allow a test of the interaction. Furthermore, researchers who conduct additional regression analyses using scale scores and the product interaction term do not always appear to be aware that their two-factor regression model differs from their single-factor ANOVA analysis (e.g., Deaux, Kite and Lewis 1985; Hoffman and Fidell 1979).

BSRI Measurement Properties

Reliability: Bem subjected the BSRI to the usual psychometric tests used to establish internal consistency and test-retest reliability. She reported that the BSRI performed well on all counts (1974). As expected, the masculine and feminine scales were independent. Correlations between the M and F scales were .11 for male respondents and -.14 for female Stanford respondents and in the Foothill college sample they were -.02 and -.07 respectively. Furthermore, Cronbach's alpha coefficients for the masculinity scale (.86) and the femininity scale (.82) indicated that the scales were adequately reliable.

Later estimates of internal reliability have been consistent with Bem's original reports: .78M and .86F (Ballard-Reisch and Elton 1992); .85M and .81F (Campbell, Gillaspy and Thompson 1997); .87 M and .82 F (Luhaorg and Zivian 1995); .89M and .82F (McCreary and Korbanik 1994; .85M and .76F, .86M and .78F (Martin and Ramanaiah 1988); .87M and .82F (Ramanaiah and Martin 1984); and .88 M and .78 F (Wilson and Cook 1984).

Bem reported high test-retest reliability over a four-week interval (*r* = .90 for both M and F; Bem 1974). Lower test-retest reliabilities were reported by Faulkender (1987). Results differed by sex; for women, correlations of .77 on the femininity scale and .68 on the masculine scale were reported, while male results were .71 F and .90 M. Although Faulkender noted that data were collected over a two-year period, the interval between tests was not reported and may have varied. Finally, long-term reliabilities of .56M and .68F have been reported for a four-year test-retest interval (Yanico 1985).

Construct Validity - Convergent and Discriminant Validity: With regard to construct validity, Bem argued that the near-zero correlations between the social desirability scale and androgyny (the difference between M and F scores) demonstrated that androgyny did not simply tap a general tendency to respond on the basis of social desirability, but rather indicated that respondents were describing themselves in accordance with male and female stereotypes. She concluded that virtually negligible correlations between the BSRI M and F scales and those of the Guilford-Zimmerman Temperament Survey (.11 to .15 M and .04 to -.06 F) and only moderate correlations between BSRI and California Psychological Inventory M and F scales (-.25 to -.45 M and .25 to .27 F) meant that the BSRI was measuring aspects of sex roles that were not being tapped by existing scales.

More recently, however, researchers using the multitrait-multimethod technique have reported less desirable results for convergent and discriminant validity of the BSRI M and F scales The 15x15 design used by Ramanaiah and Martin (1984) included M and F scales from the BSRI, the PRF ANDRO Scale, and the Adjective Checklist; three measures each of dominance and nurturance; and three measures of orderliness. They reported that the BSRI M and F scales satisfied Campbell and Fiske's (1959) criterion for convergent validity, and the three criteria for discriminant validity. However, Ramanaiah and Martin did not administer each questionnaire with each of the three response formats (multi-point scales, true-false, checklist), and thus did not address the multimethod issues.

Wong, McCreary and Duffy (1990) addressed these methodological flaws in their investigation of peer ratings of social desirability, masculinity and femininity trait items, and self reports of these constructs as measured by the Marlowe-Crowne Social Desirability scale (1964; cited in Wong et al. 1990), and the BSRI feminine, masculine and social desirability trait scales. All reliability coefficients with the exception of self-rated desirability (.70) met the Campbell and Fiske criterion of high reliability. Problems with convergent and discriminant validity were revealed, with the correlation between self-rated M and peer-rated F ($r = .43$) being much higher than those between self-rated and peer-rated M (.21) and self-rated and peer-rated F (.15). Wong, McCreary and Duffy thus argued that correlations between sex-role instruments such as the BSRI and PAQ are inflated by method variance.

Construct Validity - Principal Components Analyses: The original BSRI has been factor analyzed by several researchers (Antill and Cunningham 1982; Antill and Russell 1982; Ballard-Reisch 1989; Ballard-Reisch and Elton 1992; Berzins, Welling and Wetter 1978; Bledsoe 1983; Blanchard-Fields, Suhrer-Roussel and Hertzog 1994; Bohannon and Mills 1979; Brems and Johnson 1990; Collins, Waters and Waters 1979; Feather 1978; Gaa, Liberman and Edwards 1979; Gaudreau 1977; Gross, Batlis, Small and Erdwins 1979; Gruber and Powers 1982; Harris 1994; Kimlicka, Wakefield and Friedman 1980; Larsen and Seidman 1986; Marsh and Myers 1986; Martin and Ramanaiah 1988; Maznah and Choo 1986; Mills 1981; Moreland, Gulanick, Montague and Harren 1978; Pedhazur and Tetenbaum 1979; Ratliff and Conley 1981; Ruch 1984; Ryan, Dolphin, Lundberg and Myrsten 1987; Schmitt and Millard 1988; Thompson 1989; Thompson and Melancon 1986; Waters and Popovich 1986; Waters, Waters and Pincus 1977; Wheeless and Dierks-Stewart 1981; Whetton and Swindells 1977; Wilson and Cook 1984).

Pedhazur and Tetenbaum's 1979 investigation of the BSRI factor structure was the first such analysis to examine male and female responses separately and without the introduction of extraneous variables. Exploratory principal components analysis of the 171 male and 400 female responses to the 20 masculine and 20 feminine items was conducted. Because similar results were achieved with orthogonal and oblique rotation, only the orthogonal solutions were reported (see Appendix 3 for factor content and explained variance). Four factor male and female solutions that consisted of items with loadings of .400 and higher were identified. The four female factors, which accounted for 83% of the variance, were described as masculinity or assertiveness, femininity or interpersonal sensitivity, a third bipolar self-sufficiency factor, and a fourth bipolar masculinity-femininity factor. Accounting for 73% of the variance, similar factors were identified for males, but these differed in order of importance. The first male factor was similar to the female interpersonal sensitivity factor, although loadings on this factor tended to be higher among males than females. The second male factor corresponded to the female assertiveness factor, while the third self-sufficiency factor again resembled the construct identified in the female solution. Pedhazur and Tetenbaum also noted that while the assertiveness factor explained much more of the female variance than did self-sufficiency, among males these factors were of comparable weight. The fourth male factor was also bipolar.

Subsequent principal components analyses of the long BSRI have produced results compatible with those of Pedhazur and Tetenbaum. A handful of two-factor models have been reported by researchers who have chosen to retain only the two factors explaining the largest amount of variance, and their factors closely resemble the interpersonal sensitivity and assertiveness factors identified by Pedhazur and Tetenbaum (e.g., Ballard-Reisch 1989; Ballard-Reisch and Elton 1992; Bledsoe 1983; Thompson and Melancon 1986; Wheeless and Dierks-Stewart 1981). However, multi-factorial models have been reported with much greater frequency (Antill and Cunningham 1982; Antill and Russell

1982; Berzins, Welling and Wetter 1978; Bohannon and Mills 1979; Brems and Johnson 1990; Collins, Waters and Waters 1979; Feather 1978; Gaa, Liberman and Edwards 1979; Gaudreau 1977; Gross, Batlis, Small and Erdwins 1979; Gruber and Powers 1982; Harris 1994; Hillier and Philliber 1985; Kimlicka, Wakefield and Friedman 1980; Larsen and Seidman 1986; Maznah and Choo 1986; Moreland, Gulanick, Montague and Harren 1978; Mills 1981; Pedhazur and Tetenbaum 1979; Ratliff and Conley 1981; Ruch 1984; Ryan, Dolphin, Lundberg and Myrsten 1987; Schmitt and Millard 1988; Thompson 1989; Waters and Popovich 1986; Waters, Waters and Pincus 1977; Whetton and Swindells 1977; Wilson and Cook 1984). Finally, factor analyses that included all 60 BSRI items have demonstrated that while few of the neutral items appear to load onto "masculine" factors, several (i.e., *helpful*, *friendly*, *likeable*, *sincere*, *tactful*) do load onto "feminine" factors (Ballard-Reisch 1989; Ballard-Reisch and Elton 1992; Gaudreau 1977; Ryan, Dolphin, Lundberg and Myrsten 1987 [Appendix 4]; Wheeless and Dierks-Stewart 1981).

Construct Validity - Structural Equation Analyses: Confirmatory structural equation analyses of the original M and F scales provide further disconfirmation of Bem's hypothesized two independent factors. In their analysis of a subset of 14 M and 14 F items administered to adolescent females, Marsh and Myers (1986) reported a GFI index of .81 for a two-factor model. Furthermore, their M and F factors were moderately correlated (.58), casting doubt on Bem's claim of independent M and F scales (see Appendix 5).

Because their results did not differ by sex, Martin and Ramanaiah (1988) reported combined male and female data from their investigation of the complete BSRI M and F scales. Very poor fit statistics were achieved for a two-factor model of M and F scale items (GFI .697 initial sample, GFI .671 cross-validation sample). In their initial sample, *masculine* and *analytical* failed to load higher than their .35 criterion on the masculine factor. In their hold-out sample, *individualistic* also failed to reach the .35 criterion. Unacceptably low loadings for the feminine scale (initial sample) were reported for *shy*, *yielding*, *cheerful*, *flatterable*, *soft-spoken*, *gullible*, *childlike*, and *does not use harsh language*. With the exception of *cheerful*, these items also loaded lower than .35 in the cross-validation sample. Martin and Ramanaiah reported somewhat more satisfactory results for the four-factor models identified by Pedhazur and Tetenbaum (1979) and Ruch (1984), with respective GFI's of .765/.733 and .754/.720. No correlations between masculine and feminine factors were reported.

Subsequent confirmatory analyses of the two-factor model have produced similarly poor results. Blanchard-Fields, Suhrer-Roussel and Hertzog (1994), for example, reported a GFI of .729 for a two-factor model based on the 20 masculine BSRI items and 16 of the feminine items. Because prior analyses had indicated problems with *flatterable*, *gullible*, *childlike*, *does not use harsh language*, Blanchard-Fields et. al omitted these items from their analysis. Using all 40 masculine and feminine items, Campbell, Gillaspy and Thompson (1997) reported GFI's of .728 for both correlated and uncorrelated two-factor models.

Additional exploratory work by Blanchard-Fields et al. (1994) produced a model with ten first-order factors and two second-order factors of global masculinity and femininity. The first-order factors included seven multi-item dimensions (Interpersonal Affect, Decisive, Shy, Self-Sufficient, Athletic, Dominant, Compassionate) and three single-item factors of *masculine*, *feminine* and *analytical* (see Appendix 6). Blanchard-

Fields et. al reported a GFI of .859 when male and female data were combined and these results were replicated with a second sample (GFI of .854). Separate analyses by sex demonstrated that the model fit only slightly better for females than for males.

THE SHORT BSRI

Development

The Pedhazur and Tetenbaum critique suggested that the long BSRI required revisions. In addition to showing that the BSRI appeared to consist of four factors, with the traits *masculine* and *feminine* constituting a separate bipolar factor, Pedhazur and Tetenbaum also identified particular problems with the feminine scale. According to their analysis, feminine traits were lower overall in desirability, even when they were applied to females, and the mean desirability ratings for *gullible* and *childlike* were even lower than certain negative items on the neutral social desirability scale.

Bem countered the Pedhazur and Tetenbaum critique by announcing the impending availability of her new short BSRI (Appendix 1; 1979). The items that were correlated with gender (including *masculine* and *feminine*) were removed, as were the low desirability feminine items such as *yielding*, *shy*, and *soft-spoken*. The 10 masculine items retained for the short version were *assertive*, has *leadership ability, dominant, strong personality, forceful, aggressive, willing to take a stand, independent, defends own beliefs,* and *willing to take risks*. Also retained were 10 feminine items: *gentle, tender, compassionate, warm, sympathetic, sensitive to others' needs, eager to soothe hurt feelings, understanding, affectionate,* and *loves children*. The thirty-item scale was completed with 10 "filler" social desirability items. Correlations between the BSRI short version scales and the PAQ scales appear to be consistent with those reported for the original long version: .67M and .60F (Holmbeck and Bale 1988); .72 M and .75F (Lubinski, Tellegen and Butcher 1983).

Short BSRI Measurement Properties

Reliability: Although male scale reliabilities appear to be slightly lower, reliabilities for the feminine scale are somewhat higher than those reported for the long version: .82M and .89F (Campbell, Gillaspy and Thompson 1997); .81M and .85F, .83M and .87F (Martin and Ramanaiah 1988), .84M and .90F (Williams and D'Alessandro 1994).

Construct Validity- Structural Equation Analyses: The factor structure of the short BSRI is somewhat more consistent with a two factor model (Spence 1991). Martin and Ramanaiah (1988) found that in both initial and cross-validation samples, all masculine and feminine items loaded onto the appropriate factor, and that all of these loadings exceeded .35. As with their analysis of the long form, presumably they specified uncorrelated masculine and feminine factors. They reported considerably higher GFIs than had been achieved with a two-factor model of the long form (.879 and .838 respectively).

Analyzing data from 791 university students, Campbell, Gillaspy and Thompson (1997) concurred that the short BSRI was much more consistent with a two-factor model than the long form (Appendix 7). They found little difference between correlated and uncorrelated two-factor models of the short form (both GFI of .884) and reported a very small factor correlation (-.076). The Campbell et al. sample contained approximately equal numbers of males and females and analysis was not conducted separately by sex.

Construct Validity - Predictive Validity: The predictive validity of both the long and short versions of the BSRI as indicators of gender-schematicity is still hotly debated (see Chapter 6). Bem had not used the short BSRI to classify experimental research subjects until 1985 (Frable and Bem 1985), and on this occasion she took the precaution of having subjects complete the long BSRI. She observed that the short version's subset of original BSRI items classified a much smaller percentage of subjects as sex-typed than her original long version, and no significant experimental effects were revealed when the short form items were used to form the four sex-type groups. However, results were as predicted when the long form groups were used in a reanalysis. Frable and Bem concluded that the short BSRI would not be used for further research in their laboratories, and Bem advised others against its use (Bem 1985). These results prompted Spence to question the extent to which Bem's significant experimental findings depended not on the relationship between instrumental and expressive traits, but rather on the willingness of respondents to endorse undesirable (e.g., *gullible*) and less desirable (e.g., *shy*) traits, or to specifically identify oneself as masculine or feminine (Spence 1993).

When prediction is confined to agentic and communal behaviours, however, evidence in favour of the short BSRI's construct validity has been reported (Holmbeck and Bale 1988). Holmbeck and Bale reported regression analysis results with short BSRI and Interpersonal and Expressive Behaviour Inventory scales that paralleled those found with PAQ scores. The BSRI F scale was a better predictor of Expressive scores than was the M scale, while the M scale was a superior predictor of the Lack of Instrumentality (negative coefficient), Competitive/Assertive and Persistent scores. As with the PAQ M score, BSRI M predicted the Expressive score among females once F was controlled. In addition, BSRI F predicted Lack of Instrumentality among males when M was controlled.

Holmbeck and Bale suggested that an additional dimension of social competence could underlie both the Expressive and Instrumental domains, such that individuals with greater social fluency might exhibit greater frequency of both expressive and instrumental behaviours than those less socially competent.

ADAPTED BSRI SCALES

Because Bem has not undertaken further revisions to the long form, the most widely used gender identity instrument (Beere 1990) does not appear to conform to the two-factor masculinity-femininity model theorized by Bem, nor does it satisfy her original criterion that items should reflect positive gender stereotypes. Furthermore, Bem advises against the use of the short form that was designed to address these issues. Accordingly, adaptations of the BSRI proposed by researchers other than Bem are reviewed below. These are Taylor's Instrumental/Expressive scale (Taylor 1984), the Masculinity and Femininity Indices of the Sexual Identity Scale (Stern, Barak, and Gould 1987), the Interpersonal BSRI (Brems and Johnson 1990), and the Gill et al. Instrumental/Expressive Scale (Gill, Stockard, Johnson and Williams 1987).

Instrumental/Expressive Scale (Taylor)

Basing her judgments on published factor analytic results, Taylor (1984) adapted the long BSRI for her investigation of the relationship between instrumental and expressive traits and behaviours. Three masculine items (*athletic, analytical*, and *masculine*) and eight feminine items were deleted (*shy, flatterable, loyal, feminine, soft-spoken, gullible, childlike, and does not use harsh language*). Ratings for *helpful* and *friendly*, from the social desirability scale, were added to the feminine score. Subsequent regression analysis using mean scale scores from 97 females and 100 males demonstrated that instrumental traits and sex predicted instrumental behaviour (standardized coefficients of .38 and .23), with males scoring higher than females on instrumental behaviour. Expressive traits and sex predicted expressive behaviour (standardized coefficients of .41 and -.39), with women demonstrating more expressive behaviour than men. Furthermore, expressive traits did not predict instrumental behaviour, nor did instrumental traits predict expressive behaviour (standardized coefficients of -.04 and .06, both n.s.). Taylor reported that the traits scales did not interact, but apparently did not investigate the sex by scale score interactions.

Masculinity and Femininity Indices of the Sexual Identity Scale

Based on an earlier principal components analysis of the BSRI M and F items (Barak and Stern 1986), Stern, Barak, and Gould (1987) introduced Masculinity and Femininity Trait Indices as components of their Sexual Identity Scale. The Masculinity Index included the *has leadership abilities*, *willing to take a stand*, *ambitious*, *competitive*, *dominant*, *assertive*, *strong personality*, *forceful*, *acts as a leader*, and *aggressive* items from the BSRI. Masculinity Index reliabilities were .885 (380 females), .901 (380 males) and .897 (total sample). The Femininity Index included *affectionate*, *loyal*, *tender*, *sensitive*, *sympathetic*, *compassionate*, *eager to soothe hurt feelings*, *understanding*, *gentle* and *warm*, with reliabilities of .899 (females), .889 (males) and .900 (total sample).

Palan, Areni and Kiecker (1999) reported a three-factor solution for the Stern et al. adaptations, noting that *competitive* failed to load on any factor while *loyalty* constituted a single third factor. Once these items were dropped, a two-factor solution of expressiveness and instrumentality was achieved. Reliability coefficients for the expressive scale were .89 (females) and .94 (males) and the internal consistency of the instrumental scale was slightly lower at .88 (females) and .90 (males).

The Interpersonal BSRI

Because of the psychometric problems associated with use of the long BSRI, Brems and Johnson (1990) proposed their own version of a short BSRI, which they described as the Interpersonal BSRI. To develop their instrument, Brems and Johnson investigated the factor structure of the long BSRI by pooling male (n = 352) and female (n = 394) data from their previous personality variable investigations. Using principal components analysis with orthogonal varimax rotation, they identified four factors that accounted for 37.2% of the variance. These were a feminine interpersonal sensitivity factor (11.9%), a masculine interpersonal potency factor (18.1%), an autonomy factor (4.0%), and a masculinity-femininity factor (3.2%).

Conducting frequency counts of items that appeared in the same factor in the nine studies they reviewed, Brems and Johnson identified two 9-item scales that appeared within the same factor in six of these studies. For the interpersonal sensitivity factor, these included *gentle, warm, tender, compassionate, sensitive, understanding, affectionate, sympathetic*, and *eager to soothe hurt feelings*. The masculine potency factor included *dominant, aggressive, willing to take a stand, forceful, assertive, strong personality, makes decisions easily, acts as a leader*, and *has leadership abilities*. The resulting instrument corresponded closely with Bem's short BSRI. The Brems and Johnson version omitted one feminine item included in Bem's short form (*loves children*) and three masculine items (*defends own beliefs, independent* and *willing to take risks*), and added two masculine items (*acts as a leader* and *makes decisions easily*). Respective alpha coefficients for the nine-item sensitivity and potency factors were .89 and .87.

Brems and Johnson also reported correlations between the Interpersonal BSRI and other personality inventories as evidence of construct validity. They found positive correlations between Interpersonal Sensitivity (IS) and the Wanted and Expressed Inclusion (.18) and Wanted and Expressed Affection (.13) scales of Fundamental Interpersonal Relations Orientation-Behaviour (FIRO-B, Ryan 1977; cited in Brems and Johnson 1990). The IS scale also correlated positively with the Sociability and Socialization scales (.16 and .19) and negatively with the Achievement Through Conformity scale (-.21) of the California Psychological Inventory (Gough 1986: cited in Brems and Johnson 1990). The Interpersonal Potency scale was negatively correlated with Problem Solving Confidence (-.31), Approach-Avoidance Style (-.24), Personal Control (-.17), and General Index of Problem Solving (-.31) from Heppner's Problem Solving and Inventory Instrument (Heppner 1986; cited in Brems and Johnson 1990). A positive correlation between IP and the FIRO-B Expressed Control scale (.49) and a negative correlation between IP and FIRO-B Wanted Control (-.35) were also reported. Brems and Johnson did not report evidence of their instrument's validity as a predictor of instrumental or expressive behaviour.

The Instrumental Expressive Scale (Gill et al.)

Although many researchers appear to use the terms interchangeably (e.g., Spence and Helmreich 1978), Gill, Stockard, Johnson and Williams (1987) drew a distinction between the instrumental/expressive orientations originally described by Parsons (1951; Parsons and Bales 1955) and the agentic/self and communal/other orientations proposed by Bakan (1966). They agreed that the constructs of expressiveness and communion were characterized by a relational or interdependent orientation, directed toward facilitation of human interaction processes. Instrumentality, however, which involved manipulating the environment to accomplish goals external to the interaction system, was conceptually distinct from the autonomy that Bakan proposed. In addition to containing F scale traits that did not characterize expressiveness, the PAQ and the BSRI M scales also tended to measure autonomy (e.g., self-reliance, independence) rather than instrumentality (e.g., organized, industrious, rational, analytical).

In order to develop an instrument that measured expressiveness, instrumentality and autonomy, Gill et al. used an item pool of traits drawn from the Gough Adjective Check List that at least 5 of 7 judges had placed in the same construct categories. After refinement, their instrument consisted of a unidimensional Expressive Scale, two factors that measured Instrumentality (Industrious and Analytical) and two factors that measured Autonomy (Forceful and Adventurous). Many of these items coincided with BSRI traits. The Expressive Scale contained *sympathetic*, *understanding*, *pleasant*, *considerate*, *good-natured*, *warm*, and *obliging*. The Industrious Scale was composed of *thorough*, *efficient*, *industrious* and *planful*, with *analytical*, *foresighted*, and *rational* forming the Analytical scale. Autonomy contained the two-item Adventurous factor (*adventurous* and *daring*) and the 7-item Forceful scale (*stern*, *forceful*, *aggressive*, *outgoing*, *assertive*, *independent*, and *active*). Respondents provide self-ratings on all items according to a 4-point scale anchored by "very untrue" and "very true".

Gill et al. administered these items to four samples between 1982 and 1984 (340 undergraduates, 250 high school students, 430 nurses, and 460 university graduates). All samples contained approximately equal numbers of males and females. Reliabilities were highest for the Expressive scale, and ranged from .74 to .83 among women and .75 to .82 for men. Cronbach's alpha for the Industrious scale ranged from .59 to .77 among women and .54 to .77 among men, while the three-item Analytical scale was considerably less reliable (.39 to .69 for women, .44 to .69 for men). Forceful scale reliabilities ranged from .63 to .75 (women) and .67 to .74 (men). Gill et al. did not provide any evidence concerning construct validity.

THE RELATIONSHIPS OF AGENCY AND COMMUNION WITH ADVERTISING RESEARCH AND SEGMENTATION VARIABLES

Unfortunately, the PAQ, the BSRI and its adaptations appear to be inadequate operationalizations of agency and communion. All of the gender identity measures reviewed above are characterized either by multidimensionality or by items that fail to represent the theoretical constructs of Self- and Other-orientation. To address these shortcomings, a ten-item instrument that measures these constructs has been developed; the development and validation of this instrument are discussed in Chapter 5. Briefly summarized below, the psychological literature does indicate that the PAQ and BSRI M and F scales are of some importance in predicting individual differences in personality and cognition, and may be used for segmentation purposes. However, any statements concerning the relationships of agency and communion (or Self- and Other-orientation) with advertising research and segmentation variables are necessarily of a speculative nature.

Both M and F scores contribute to the prediction of psychological well-being and sexual orientation, while trait argumentativeness and extraversion appear to be related only to the M scales of these instruments. Where individual differences in cognition are concerned, it more frequently appears to be the case that sex interacts with scale scores. This is true of results for intolerance for ambiguity, cognitive complexity, and measures of hemispheric orientation. Other findings are much less clear. Although females have superior non-verbal decoding skills, it is the F rather than the M score which is related to decoding ability, and only very weakly at that. Conflicting results have also been observed in spatial ability tasks.

The pattern of findings concerning segmentation variables such as occupation, field of study, and geographic region are much more consistent than those found with personality and cognition variables. As intuition would lead one to expect, women in occupations and fields of study that are male-dominated tend to have high M scores, while those in traditional fields have high F scores. A similar pattern has been observed among men, although much less is known about male career choices and self-concept orientation.

Individual Differences in Personality

Psychological Adjustment: As discussed previously, Bem (1974) argued that androgyny, or a balance of masculine and feminine characteristics, was more characteristic of a healthy psyche than high levels of either masculinity or femininity in isolation. Spence, Helmreich and Stapp (1975) qualified this "balance" model, arguing that the term androgyny should be applied only to those individuals with high levels of both masculine and feminine traits. More often than not, however, researchers found that it was the masculine/instrumental score that predicted positive measures of self-adjustment such as self-esteem, while expressive characteristics were of less use in predicting psychological well-being (Deaux 1984; Faulkender 1991; Jones, Chernovetz and Hansson 1978; Lee and Scheurer 1983, Pyke 1985; Pyke and Graham 1982; Taylor and Hall 1982).

In her review of findings related to androgyny and psychological well-being, Hunt (1993) noted that researchers had failed to reach any consensus regarding the predictive importance of expressive and instrumental characteristics. The debate had persisted, she argued, partly because of little agreement as to the appropriate measure of self-esteem. Hunt did not discuss the debate between Nicholls, Licht and Pearl (1982) and Spence and Helmreich (1983) concerning the substantial item overlap between M scales and self-esteem measures, and the subsequent dangers in drawing conclusions about the relationship between the constructs of self-esteem and masculinity. Clearly, though, a much stronger case could be made for the importance of masculinity in psychological health if it could be shown to predict a broad range of dependent measures related to well-being.

Because the long BSRI factor structure and inclusion of negative items in the feminine (expressive) scale were problematic for researchers attempting to identify relationships among instrumentality, expressiveness and well-being, Hunt chose to use the short BSRI. Regression analyses with terms for instrumentality, expressiveness and their interaction were conducted for each of the dependent measures. No interaction effects were significant but in every case the main effects for instrumentality and expressiveness were significant. Specifically, instrumentality and expressiveness accounted for 15% and 12% respectively of the variance in positive affect, 11% and 7% in affect balance, 13% and 7% in life satisfaction, and each accounted for 8% of the variance in depression (negative coefficients). Further investigation of affect indicated that positive, negative and overall affect intensity were related to the expressive scale score only. There were no significant differences between males (n = 57) and females (n = 72).

Williams and D'Alessandro (1994) also selected the short BSRI for their investigation of the relationship between androgyny and psychological adjustment variables of self-esteem, self-actualization, satisfaction with life, state and trait anxiety and depression. Williams and D'Alessandro conducted six hierarchical regression analyses using M, F, and the MxF interaction as predictors of each of the dependent measures. Apparently male (n = 48) and female (n = 52) data were combined. No significant interactions were reported, and M predicted a wider range of dependent measures than did F. Self-esteem, depression, state anxiety and trait anxiety were predicted by M only (respective standardized coefficients of .90, -1.28, -.15, and -.17), while both M and F contributed significantly to the prediction of satisfaction with life (respective standardized coefficients of .76 and .48) and self-actualization (-.19 and -.17). Using canonical correlations analysis with four male gender role conflict measures, PAQ M and F scores, and eight measures of psychological well-being, Sharpe, Heppner and Dixon (1995) found two roots of well-being among 88 males. PAQ M and F were important components of these roots that Sharpe et al. labelled as Agentic and Expressive/Emotional Well-being.

The PAQ M coefficient for Agentic Well-being (-.70) was third in importance among coefficients that ranged from .00 to .86, while the PAQ F coefficient (.79) was the most important coefficient in the second root. Similar to previous results, agency was slightly more important in explaining variable relationships than was communion, with the two roots accounting for 53% and 38% of the variance respectively.

Trait Argumentativeness: Measuring trait argumentativeness with the Argumentativeness Scale (Infante and Rancer 1982; cited in Rancer and Dierks-Stewart 1985), Rancer and Dierks-Stewart found that instrumental individuals had significantly higher trait argumentativeness scores than expressive subjects, regardless of biological sex. Subjects were classified according to a subset of BSRI items (Wheeless and Dierks-Stewart 1981).

Eysenck's Personality Dimensions: Kimlicka, Sheppard, Sheppard and Wakefield (1988) reported that the pattern of correlations between the short BSRI M and F scales and Eysenck's dimensions of Psychoticism, Extraversion and Neuroticism differed by sex. Among males (n = 71), Extraversion was positively correlated with BSRI M (.48). No other correlations were significant. Among females (n = 146), BSRI M was correlated with Extraversion (.50) and Neuroticism (-.26), while BSRI F was correlated with Psychoticism (-.25), Extraversion (.27) and Neuroticism (-.16).

Sexual Orientation: Spence and Helmreich (1978) administered the PAQ to 56 male and 54 female self-described homosexuals. Compared with college males, homosexual males had significantly lower M scores and significantly higher F scores. Female homosexuals had higher M scores than female college students, but did not differ on the F scale. When college student norms were used to classify these homosexual subjects, Spence and Helmreich reported distributions of 9% masculine, 23% feminine, 18% androgynous and 50% undifferentiated males, and 22% masculine, 13% feminine, 33% androgynous and 32% undifferentiated females.

Using PAQ median splits with a sample of 125 women, LaTorre and Wendenburg (1983) reported a significant relationship between self-described sexual orientation and sex-type classification based on median splits. Heterosexual women (n = 85) were 28.2% androgynous, 21.2% masculine, 25.9% feminine, and 24.7% undifferentiated. Bisexual women (n = 22) were 31.8% androgynous, 36.4% masculine, 0.0% feminine and 31.8% undifferentiated, and homosexual women (n = 18) were 38.9% androgynous, 11.1% masculine, 5.6% feminine, and 44.4% undifferentiated.

Individual Differences in Cognition

Mathematical Ability: Selkow (1985) measured performance of 145 women and 50 men on the 14-item WAIS arithmetic sub-test using masculine, feminine and neutral administration conditions. These conditions were created by altering the 8 items that contained specific gender references (e.g., a man/woman/person with $18 spends $7.50. How much does he/she/the person have left?). Subjects also completed the long BSRI and were classified as masculine, feminine, androgynous and undifferentiated sex-type according to Bem's medians. ANCOVA analysis, with the number of college mathematics courses taken beyond basic college arithmetic used as a covariate, demonstrated that performance did not differ according to the condition of administration. However, regardless of biological sex, masculine subjects performed significantly better than feminine subjects.

Nonverbal Decoding Skills: In their review of the literature on sex differences in nonverbal decoding skills, Hall and Halberstadt (1981) noted that females had been found on a consistent basis to demonstrate superior ability in decoding affective meaning from face, body and voice tone cues. The magnitude of difference between the sexes did not vary with age or sex of the stimulus person, although the female advantage seemed to be larger for visual than for auditory cues. The most popular test of nonverbal decoding skill has been the Profile of Nonverbal Sensitivity (PONS; Rosenthal, Hall, DiMatteo, Rogers and Archer 1979; cited in Hall and Halberstadt 1981), which is a motion picture test of ability to decode nonverbal face, body and voice cues. Several possible explanations for sex differences in PONS results have been proposed, including differences in empathy, attention and practice, accommodation, sex-role and structural oppression, hemispheric differences, and masculinity-femininity. Reasoning that high levels of femininity (or communal characteristics) should predict good performance on the PONS, at least eleven research teams had investigated this hypothesis. The meta-analytic results reported by Hall and Halberstadt, however, indicated that the relationship between BSRI and PAQ scores and decoding skill was very weak. Furthermore, it was masculinity rather than femininity that was correlated with decoding ability (mean $r = .13$). Hall and Halberstadt reasoned that the goals of the agentic person were likely to require a type of interpersonal effectiveness that depended on the ability to judge moods and feelings of others.

Cognitive Complexity and Intolerance for Ambiguity: Rotter and O'Connell (1982) examined the relationship between sex-role orientation as measured with the BSRI, cognitive complexity as assessed with the Schroeder and Streufert measure (1967, cited in Rotter and O'Connell 1982) and ambiguity tolerance as operationalized by the Budner

Intolerance for Ambiguity Scale (1962; cited in Rotter and O'Connell 1982). Both sex and sex-type correlated with cognitive complexity and tolerance for ambiguity. Concerning sex, females were more cognitively complex than males, and were also more tolerant of ambiguity. Stepwise multiple regression analysis was conducted using BSRI scores, age, sex, college class, mother's employment status and SAT scores from the combined male (n = 87) and female (n = 204) sample. When the sexes were combined, the M scale of the long BSRI was approximately half as important a predictor of Intolerance for Ambiguity as SAT score (respective beta weights of -.174 and -.336), and slightly more important than sex and mother's employment status (beta weights of -.132 and -.101). Cognitive Complexity standardized regression coefficients in order of importance were college class (.210), sex (.177), BSRI F (.172) and BSRI M (.135).

Rotter and O'Connell apparently did not examine any of their predictor variables in interaction with sex. However, results reported for separate male and female analyses differed considerably for both dependent measures. Regarding cognitive complexity among females, beta weights in order of importance were: SAT verbal (-.242), SAT math (.231), BSRI M (.221), college class (.166), BSRI F (.142) and age (.087). When males were analyzed, the order of importance was quite different and the SAT signs were reversed: college class (.374), mother's employment status (-.340), SAT math (-.273), SAT verbal (.251) and BSRI F (.102). Male and female regression equations also differed for Intolerance for Ambiguity. Female beta weights were SAT verbal (-.337), BSRI M (-.277), and mother's employment status (-.140), while male beta weights were SAT verbal (-.375), mother's earliest employment (.285), mother's occupation (.257), and college class (-.243). BSRI scales did not predict male Intolerance for Ambiguity.

Spatial Ability: Certain research suggests that sex-type may play a role in sex differences in spatial ability. Jamison and Signorella (1980 1987) and Kalichman (1989) have reported small positive correlations between masculinity and performance on the Piaget water-level task. Kalichman also found that the strongest predictor of performance among women was an inverse relationship with the BSRI F scale. However, when subjects are classified according to the four sex-type categories, these M and F relationships have not been found. Popiel and De Lisi (1984), for example, reported null ANOVA results for BSRI sex-type groups in relation to the Piaget water-level task and a Paper-folding Test developed by Educational Testing Services.

In their examination of sex-type and spatial ability, Berfield, Ray and Newcombe (1986) found an interaction among sex, PAQ masculinity and PAQ femininity where EEG readings were concerned. Masculine men had higher levels of right than left hemispheric activation, while feminine females demonstrated bilateral activation patterns. Berfield et al. thus argued that previously documented sex differences in hemispheric lateralization might depend more on adherence to sex role stereotypes than on biological sex. They also noted that while positive relationships between masculinity and spatial ability had been documented in previous literature, in this instance a negative relationship was found between masculinity and performance on the Differential Aptitudes Space Relations Test.

Hemispheric Orientation: Hirschman (1983) examined the relationship between PAQ scores and six measures of hemispheric orientation: efferent imagery ability, emotional involvement, sensation seeking, right hemisphere orientation, and external/internal cognitive stimulus seeking. Although her analysis separated males (n = 219) and females (n = 221), the pattern of results reported by Hirschman suggested that masculinity and femininity interacted with biological sex. Women scored higher on efferent imagery ability than men, and this was positively related to both M and F scores. For men, however, only F was a significant predictor (positive). Women were also higher in emotional involvement, and again their scores were predicted by both M and F scores. Among men, a negative relationship was found between M and emotional involvement. Men were higher than women in the sensation-seeking measure, and for both men and women, this scale was negatively related to F scores and positively related to M scores. The right hemisphere orientation variable demonstrated the reverse pattern, with women scoring higher than men, and M being a negative predictor and F a positive predictor for both sexes. Men were also higher in external cognitive stimulus seeking; for men this was positively related to M and negatively related to F, while for women only the negative relationship between F and external stimulus seeking was significant. Women scored higher than men on the measure of internal cognitive stimulus seeking, and this was positively related to both the M and F scales. No significant relationship between internal stimulus seeking and the M and F scales was found for men.

Demographics

Occupation: Evidence concerning the relationships between agency, communion, and choice of occupation suggests that women who make non-traditional academic and career choices tend to be among the high masculinity scorers in the samples with which they are tested. Conversely, men who make atypical choices tend to be higher in femininity.

Waddell (1983), for example, found that self-employed females scored higher than female secretaries on the long BSRI masculinity scale, while Williams and McCullers (1983) found that women in atypical careers (lawyer, physician) had higher long BSRI masculinity scores than those in more traditional occupations (nurses, court reporters, secretaries). Similarly, Sachs, Chrisler, and Devlin (1992) reported that median splits with the long BSRI classified most of the 95 American women managers they surveyed as androgynous (52%) or masculine (33%). Very few were feminine (11%) or undifferentiated (4%). The reverse pattern of scores appears among women in more traditional fields. Hamby and Shapiro (1983), for example, found that women training as dental hygienists in Baylor, Oklahoma and Louisiana were predominantly feminine or near-feminine when Bem's simple F-M subtractive method (1974) was used to classify subjects.

Similar results have been reported when agency and communion were measured with the PAQ. Spence and Helmreich (1978) noted that their sample of 41 female varsity athletes scored higher on M and lower on F than did the general student population. Classified according to student norms, the sample contained 31% masculine, 10% feminine, 39% androgynous and 20% undifferentiated women. Spence and Helmreich also found higher M scores among a sample of female scientists, and reported a distribution of 23% masculine, 23% feminine, 46% androgynous and 8% undifferentiated when student norms were used for classification.

Much less is known about the relationships among agency, communion, and men's career choices. Lemkau (1984) reported that men who worked in typical professions (75% male) had long BSRI M scores that were higher in relation to their F scores compared to males who chose atypical professions. Compared with a sample of college students, male engineers had higher PAQ M scores, but did not differ on the F scale (Jagacinski 1987). A distribution of 40% masculine, 8% feminine, 35% androgynous and 17% undifferentiated males resulted when Spence and Helmreich college norms (1978) were used to classify the engineers.

Agency and communion scores also contribute to the prediction of gender role conflict experienced by those who work in fields dominated by the opposite sex. Luhaorg and Zivian (1995) used sex, % males in the occupation, and long BSRI M and F scores as predictors of gender role conflict for 69 males and 80 females. Starting with a full model that included all main effects and interactions, Luhaorg and Zivian used hierarchical regression to arrive at an 9-term model. The most important standardized regression coefficients were M by %males (-14.93), %males (12.39), M by F by %males (11.25) and F by %males (-9.85). Much less important were sex by %males (-2.96), sex by M by %males (2.93), M (2.90), sex (2.70), M by F (-2.24) and F (1.49). In general, a feminine gender role predicted higher levels of gender role conflict in male-dominated professions than a masculine role, and lower gender role conflict in predominantly female occupations than a masculine role.

Field of Study: Using a French version similar to the BSRI short form, Lavallée and Pelletier (1992) found that women enrolled in nontraditional college programs (i.e., 70% male students) as well as those who worked in nontraditional professional and non-professional occupations (e.g., lawyer, engineer, manager, security agent, electronic technician, butcher, bus driver) demonstrated a much different pattern of sex-typing than those in traditional programs (i.e., 70% female students) and occupations (e.g., teacher, nurse, secretary). In the nontraditional employment category, 27% were classified as androgynous, 58% as masculine, 4% as feminine and 11% as undifferentiated. In the traditional employment category, women were distributed much more evenly among the four sex-type categories, with 27% androgynous, 22% masculine, 22% feminine, and 29% undifferentiated women. Among non-traditional students, 40% were androgynous, 40% masculine, 13% feminine and 7% undifferentiated, while among traditional students 39% were androgynous, 10% masculine, 24% feminine, and 27% were undifferentiated.

Other researchers have found gender-identity effects for women only. Rea and Strange (1983; see also Strange and Rea 1983) surveyed 85 male and 101 female university students. Students completed the long BSRI and were classified by sample median splits. They were also categorized according to whether they were in same-gender or cross-gender majors, which Rea and Strange defined on the basis of university records as having 2/3 to 1/3 sex ratios. Approximately 51% of their respondents were enrolled in same-gender majors and 49% in cross-gender majors. Rea and Strange found a significant relationship between sex-role and major for females only. The largest proportion of females in same-gender majors was feminine (48.1%), followed by androgynous (27.8%), undifferentiated (20.4%) and masculine (3.7%). The largest proportion of women in cross-gender majors was masculine (34.0%), followed by feminine, undifferentiated (both 25.6%) and androgynous (14.9%).

Geographic Area: BSRI distributions may also vary on a regional basis (Faulkender 1987). A comparison of results on the long BSRI for students at a Southern United States university (374 females, 217 males) with Bem's 1974 means revealed significantly higher means on both femininity (4.94 vs. 4.82 Bem) and masculinity (5.02 vs. 4.95 Bem) scores for the combined sample. Broken down by sex, female means were significantly higher on femininity (5.19 vs. 5.05 Bem) but not masculinity (4.75 vs. 4.79 Bem) while Southern males were significantly higher on both scales (F: 4.68 vs. 4.59 Bem and M: 5.30 vs. 5.12 Bem). Similar results were obtained with the short BSRI, except that females in 1987 were also higher on the short form's M scale.

CONCLUSION

Neither the BSRI nor the PAQ appears adequate for the purpose of assessing agency and communion but both are widely used in psychological research. Evidence concerning the relationships among agentic, instrumental and expressive characteristics and psychological variables of potential interest to advertising research exists for both the PAQ and the BSRI measures, although data relevant to segmentation has been more frequently assessed with the BSRI. Because pure measures of agency and communion are desired, experimental data for the thesis will be analyzed according to the Self- and Other-Orientation scales described in Chapter 5. However, when time constraints permit additional data collection, it is recommended that future research projects require subjects to complete the BSRI and PAQ for purposes of comparison with published literature.

CHAPTER 5

THE SELF- AND OTHER-ORIENTATION SCALES

INTRODUCTION

As discussed in Chapter 4, the BSRI, PAQ and published adaptations of the BSRI are characterized either by multidimensionality or by items that fail to represent the theoretical constructs of Self- and Other-orientation. Because unidimensional measures with nomological validity are preferred for theory development and testing, it is clear that existing gender identity scales cannot be recommended as adequate operationalizations of Self- and Other-orientation. Based on self-concept literature concerning "separateness" and "connectedness" self-schemata, a ten-item instrument that measures Self- and Other-orientation has been developed. Preliminary investigation of scale factor structures indicates that these scales conform more closely to a two-factor model of Self- and Other-orientation than do the PAQ, BSRI, and other published BSRI adaptations. Furthermore, clear evidence of reliability, content validity and factor structure have been established as well as strong support for convergent, discriminant and nomological validity.

THEORETICAL BACKGROUND

Recent literature in social psychology concerning self-concept suggests that females are more likely than males to develop a schema for the self in which relationships with others form basic representational elements (Markus and Oyserman 1989). Drawing on feminist psychology (e.g., Chodorow 1978; Gilligan 1982; Miller 1986), literature on selfhood and culture (e.g., Shweder and Levine 1984), and self-schema theory (Markus, Crane, Bernstein and Siladi 1982; Markus, Smith and Moreland 1985), Markus and Oyserman speculate that the social experiences of men and women result in self-concepts that differ in the degree to which individuals see themselves as separate from or connected to others. They believe that women develop "connected" schemata, analogous to those developed by individuals in collectivist societies, in which the primary referent is the "self-in-interpersonal relationships" rather than the individual. While women place emphasis on close dyadic relationships, men form connections with others in a larger social sphere (Baumeister and Sommer 1997; Cross and Madson 1997; Fletcher and Fitness 1996; Gabriel and Gardner 1999). As with other social schemata, the self-schema guides perception, interpretation, and understanding of the social environment.

Josephs, Markus and Tafarodi (1992) note that theorists disagree as to the source of these hypothesized differences in self-concept. Bakan's early conceptualization of agency and communion (1966) offered a biological explanation, while Chodorow (1978) proposed a developmental account. More recent theorizing concerns social structure, such as Eagly's gender role acquisition explanation (1987) or Miller's female cultural subordination theory (1986). However, these researchers do agree that male and female concepts differ according to an independent-interdependent distinction.

Unfortunately, this stream of self-concept literature is similar to marketing's selectivity hypothesis research in that little attention appears to have been directed toward operationalizing agency (Self-orientation) and communion (Self- and Other-orientation). With the exception of one study that measured "independence" (Catrambone and Markus 1987), separateness and connectedness schemata are routinely assumed to be the direct consequence of biological sex.

SCALE DEVELOPMENT

In order to develop unidimensional scales for measuring Self- and Other-orientation, prior factor analytic studies of the BSRI were examined. Items were selected for the two scale pools if they were positively worded indicators of Self- and Other-orientation, and if consistently high loadings on distinct factors had been reported in previous exploratory and confirmatory factor analyses. Items that met these criteria for the self-oriented scale were *independent*, *self-reliant*, and *self-sufficient*. *Sympathetic*, *compassionate*, *understanding*, and *sensitive to needs of others* were selected for the other-oriented scale. Additional items drawn from the self-concept literature that convey concepts such as self-efficacy, self-determination, autonomy, empathy, social responsiveness, emotional awareness, and desire for harmonious interaction also were added to the item pool for possible inclusion in Self- and Other-orientation scales (Belenky, Clinchy, Goldberger and Tarule 1986; Cross and Markus 1993; Gilligan 1982; Jordan, Kaplan, Miller, Stiver and Surrey 1991; Markus and Oyserman 1989). The resulting pool contained 25 self- and 25 other-oriented items and used 9-point scales anchored by "never true of me" and "always true of me" (see Appendix 8 for item pool).

The item pool was administered to 970 students in introductory psychology classes. This sample was split on a random basis to provide exploratory (n = 485; 183 males and 302 females) and confirmatory (n = 485; 191 males and 294 females) samples. Using the exploratory sample, principal components analyses with oblique rotation were conducted with each set of items to reduce the initial pool. During this initial analysis, an item was retained if the following three conditions were met: 1) when scales were examined separately, the item loaded onto the first factor that explained the greatest proportion of the variance; 2) the loading exceeded .60; and 3) when scales were examined together, the item did not load in excess of .40 onto the second scale.

Described briefly, the Self-orientation items retained after this stage included *make own choices*, *in control*, *in charge*, *independent*, *own person*, *self-reliant*, *self-sufficient* and *up to me to succeed*. Other-orientation items were *compassionate*, *support friends*, *strive for harmony*, *helpful*, *concerned about well-being of others*, *nurturing*, *sensitive to others' needs*, *support others' goals*, *sympathetic*, and *understanding*. These items were then subjected to exploratory structural equation analysis using the elliptical reweighted least squares technique (see Sharma, Durvasula and Dillon 1989) available with EQS 5 (Bentler and Wu 1995). A correlated latent variables model was preferred for both theoretical and empirical reasons; the communal orientation concerns both self and others and earlier analyses had indicated that the latent variables loosely described as "masculine" and "feminine" were correlated. Items were eliminated on the basis of low loadings on the appropriate latent constructs until further deletion failed to improve model fit.

The resulting Self-orientation scale contains the following statements (see Appendix 9 for both scales): *I am a self-sufficient person* (Item 2); *I make my own choices* (4); *I am my own person* (6); *I am self-reliant* (7); and *I am an independent person* (10). The Other-orientation scale consists of: *I am a nurturing person* (Item 1); *I am understanding* (3); *I am a compassionate person* (5); *I am sympathetic* (8); *and I am sensitive to the needs of others* (9). Because of the similarity in wording, correlated errors were allowed between self-reliant/self-sufficient and own person/own choices (Figure 1, Appendix 10).

Standardized regression weights, fit statistics, descriptive statistics, and correlations between the latent constructs and errors are reported in Table 1 (Appendix 11) for the exploratory and confirmatory samples as well as for a third validation sample which completed the final ten-item instrument. In all cases, parameter loadings were substantial and significant (all $p < .05$). Furthermore, factor score weights indicated that scale items loaded only on the appropriate latent construct. Small but significant correlations between the latent constructs were observed in both the exploratory and confirmatory samples, while no correlation was revealed in the validation sample.

According to MacCallum, Browne and Sugawara (1996), large sample size and item level analysis mean that the chi-square test is powerful enough to detect even very small differences between the observed and hypothesized covariance matrix. With 485 subjects in both the exploratory and confirmatory samples, the chi-square values were large relative to the degrees of freedom (Exploratory: $\chi^2(32) = 69.42, p < .001$; Confirmatory: $\chi^2(32) = 51.44, p < .02$). However, other fit statistics were satisfactory. In the exploratory sample, the Non-normed Fit Index, Normed Fit Index, Comparative Fit Index and Goodness of Fit Index all were all in excess of .95, with values close to 1 indicating very good model fit. The Root Mean Square Residual was .047, with 0 indicating a perfect fit. The Root Mean Square Error of Approximation also was satisfactory at .049. These results were replicated in the confirmatory sample. As expected, the difference in the context of administration had adverse effects on the validation sample fit statistics and some shrinkage was observed, with a CFI of .976. Finally, Cronbach's alpha coefficients for the Self-orientation scale were .83 in both the exploratory and confirmatory samples while higher reliability was observed for Other-orientation (.88 exploratory, .89 confirmatory). Cronbach's alpha was .84 for both scales in the validation sample. A small sample of marketing students (n = 55) also completed the refined SO scales for purposes of test-retest correlation assessment. After a thirteen-week interval, 37 of these subjects completed the scales a second time. The resulting correlations were .74 for the Self-orientation scale and .68 for the Other-orientation scale.

Small but significant correlations were found between sex and Other-orientation in the three samples (.31, .27 and .19), while correlations between sex and Self-orientation were non-significant (.09, .07 and .02). To further explore sex differences in Self- and Other-orientation, Repeated Measures MANOVA analyses with sex as a between-subjects factor were performed. Because multivariate tests for the Sex by Orientation interaction were significant in all samples (Exploratory: $F(1, 483) = 20.876$, $p < .0005$; Confirmatory: $F(1, 483) = 19.091$, $p < .0005$; Validation: $F(1, 271) = 3.973$, $p = .047$), post-hoc tests were conducted. No sex differences in Self-orientation were observed in the exploratory sample ($t(483) = -1.894$, $p = .059$) but females were higher on Other-orientation ($t(483) = -7.155$, $p < .0005$). The same pattern occurred in the confirmatory sample; there were no sex differences in Self-orientation ($t(483) = -1.469$, $p = .143$) but females were higher on Other-orientation ($t(483) = -6.209$, $p < .0005$). Finally, these results were replicated in the validation data with no sex differences in Self-orientation ($t(271) = -.350$, $p = .726$) and females significantly higher on Other-orientation ($t(271) = -.3.120$, $p = .002$).

Within-sex comparisons demonstrated that females in the exploratory sample did not differ on Self- and Other-orientation ($t(301) = .707$, $p = .480$), but males were significantly higher on Self-orientation ($t(182) = -.4925$, $p < .0005$). Similarly, no difference between Self- and Other-orientation was found for females in the confirmatory sample (*t*(293) = .056, *p* = .956), but males were higher on Self-orientation than on Other-orientation (*t*(190) = -5.173, *p* < .0005). Again, these results were replicated in the validation sample, with no differences between Self- and Other-orientation among females (*t*(183) = 1.516, *p* = .131) and higher Self- than Other-orientation scores among males (*t*(90) = 3.591, *p* = .001).

Scale Validation

Discriminant and convergent validity of the Self-orientation and Other-orientation scales were assessed in conjunction with Social Desirability (Appendix 12, Crowne and Marlowe 1964), PAQ Masculinity and Femininity (Appendix 2, Spence, Helmreich and Stapp 1975), Horizontal Individualism and Horizontal Collectivism (Appendix 13, Triandis 1995), NEO Altruism and Assertiveness (Appendix 14, Costa and MacCrae 1992), and Rational, Intuitive and Dependent Decision-making Styles (Appendix 15, Buck and Daniels 1985).

Because both the Self- and Other-orientation scales are composed of positively worded indicators, the relationships between Social Desirability and the two scales were investigated (Figure 2, Appendix 16). As with the three measurement models in Figure 1, correlated errors between Self-reliant/Self-sufficient and Own person/Own choices were allowed. However, for purposes of visual clarity, these error correlations have been omitted from Figure 2 and all subsequent path diagrams. Although the model is rejected (χ^2 (49) = 83.03, *p* = .002), the fit is adequate with a CFI index of .977 and a RMSEA of .051. Interestingly, the correlation between Self-orientation (.156) and Social Desirability is non-significant while the correlation between Other-orientation and Social Desirability

(.334) reaches significance. This suggests that subjects are not generally responding in a socially desirable manner to the scale items, but perhaps that the relationship between Other-orientation and Social Desirability reflects true variance in the form of behaviour that facilitates harmonious interaction.

Next, a correlated measures model was fit with the Self-orientation, PAQ Masculinity, Triandis Horizontal Individualism and NEO Assertive Scales (Figure 3, Appendix 17). The five individual scale items were used as indicators of Self-orientation and the remaining items were parceled on a random basis to create two indicators for each of the other three scales (see Bagozzi and Heatherton 1994). The model was rejected (χ^2 (36) = 89.75, $p < .001$) and in this case, the fit statistics are less satisfactory with a CFI of .972 and an RMSEA of .074. In addition, the fit for the one higher order factor model of "separate" self-concept (Figure 4, Appendix 18) is significantly worse (χ^2 (38) = 114.72, $p < .001$) with the chi-square difference test statistic (24.97) well in excess of the critical value at the .05 level (χ^2 (2) = 5.99). Inspection of the various individual scale items suggests that a mixture of agentic and instrumental traits contributes to the lack of fit. For example, while the Triandis Horizontal Individualism scale includes items that are agentic, there are also three statements that are more properly described as instrumental (*I prefer to be direct and forthright when I talk to people; What happens to me is my own doing; When I succeed, it is usually because of my abilities*). In addition, the predominantly instrumental NEO Assertive Scale includes one item that may be regarded as agentic (*I would rather go my own way than be a leader of others*). Finally, the PAQ Masculinity scale also features a mixture of both kinds of indicators such as *very independent* (agentic) and *very competitive* (instrumental). Palan et al. (1999) have suggested that masculinity be reexamined as two dimensions of agency and instrumentality and it is recommended that this analysis be extended to incorporate Self-orientation, PAQ Masculinity, Triandis Horizontal Individualism and NEO Assertive items as indicators of a two-factor model of agency and instrumentality.

The same procedure of fitting first a correlated measures model (Figure 5, Appendix 19), followed by a higher order model of "connected" self-concept (Figure 6, Appendix 20), was undertaken for Other-orientation, PAQ Femininity, Horizontal Collectivism, and NEO Altruism. The correlated measures model was not rejected (χ^2 (38) = 42.05, $p = .283$); the CFI was high at .998 and the RMSEA low at .021. Furthermore, modelling the data as one higher order factor of "connected" self-concept improved the fit slightly (χ^2 (40) = 43.93, $p = .309$), resulting in a CFI of .999 and RMSEA of .019. Consequently, these results provide strong evidence of the convergent validity of the Other-orientation scale.

The next focus of investigation incorporated all "separate" and "connected" indicators in a single correlated measures model (Figure 7, Appendix 21). The model was rejected (χ^2 (180) = 292.89, $p < .001$). However, the CFI (.977) and RMSEA (.048) were superior to those achieved with either of the "separate" self-concept models, which suggests that the lack of fit for this more complicated model is directly related to the previously observed poor fit for the "separate" items, rather than to the incorporation of all eight scales in one model. Nevertheless, strong evidence of the discriminant validity of both the Self- and Other-orientation scales is present. Both scales are moderately to strongly correlated with the scales where relationships were predicted, and are not correlated with those where relationships would be undesirable (Table 2, Appendix 22).

The fit for a model that incorporates "separate" and "connected" as two higher order factors (Figure 8, Appendix 23, χ^2 (198) = 344.65, $p < .001$) was significantly worse than the correlated measures model ($\chi^2_{diff.}$ = 51.76; $\chi^2_{crit.}$ = 28.87) but the fit statistics (CFI = .970, RMSEA = .052) are still superior to those of the "separate" higher order model.

To establish evidence of predictive validity, Self- and Other-orientation were examined in conjunction with Rational, Intuitive and Dependent Decision-making Styles (Figure 9, Appendix 24). A negative causal relationship between Self-orientation and Dependent Decision-making Style was expected, while Other-orientation was not expected to be a significant predictor. Results were as anticipated, with a standardized solution coefficient of -.557 for Self-orientation and a non-significant coefficient of .072 for Other-orientation. Not only does Self-orientation appear to lead to independence and self-reliance in decision-making, but the nurture and sensitivity to the needs of others that characterize Other-orientation do not translate into approval-seeking or compliance.

CONCLUSION

It is clear that the SO scales constitute a marked improvement in the measurement of Self- and Other-orientation in that these scales are reliable, valid, unidimensional and parsimonious. Clear evidence of reliability, content validity and factor structure have been established in addition to strong support for convergent, discriminant and nomological validity.

In addition to their desirable measurement properties, the SO scales also are compatible with existing literatures in both marketing and social psychology. Characterized by a communal orientation that embraces concern for both self and others, females do not differ on the two scales. Males, typified by concern for the self, score higher on Self-orientation than on Other-orientation. Between-sex comparisons also are consistent with the literature, with females scoring higher on Other-orientation than males but not differing from males on Self-orientation. Palan, Areni and Keicker (1999) believed that their findings for instrumentality and autonomy dimensions of the PAQ and the Stern et al. BSRI adaptation were "atypical" in that men and women did not differ on these scales, but in fact their results are consistent with those achieved with the SO scales. Similarly, Palan et al. found that women scored higher than men on the expressive dimensions of the two instruments.

This is not to say, however, that all females necessarily are communal or that all males are agentic. Rather, the true value of the SO scales lies in the demonstration that self-concept orientation is not the direct consequence of biological sex. Practitioners appear to be correct in suggesting that females are developing agentic orientations while males are embracing communal concerns. In the exploratory sample, 42% of females had Self-orientation scores that were higher than their Other-orientation scores, while 31% of males had Other-orientation scores higher than Self-orientation scores. Similar percentages were observed in the confirmatory and validation samples, with 45% and 49% respectively of females and 35% and 36% of males having Self- and Other-orientation scores in the opposite direction of what existing theory would predict.

Because pure measures of agency and communion are desired, experimental data for the thesis will be analyzed according to the Self- and Other-orientation scales. The results achieved with these scales suggest not only an alternative explanation for previous advertising research, but also the means by which this investigation can be extended. It may be that Self- and Other-Orientation will prove to be better predictors of advertising outcomes than sex. Should this be the case, a more solid foundation for theory testing and development can be established on the basis of individual differences in self-concept orientation rather than on the dynamic social construction of gender.

CHAPTER 6

EMPIRICAL EVIDENCE FROM SOCIAL PSYCHOLOGY RELEVANT TO AGENCY AND COMMUNION

INTRODUCTION

The introduction of the Bem Sex Role Inventory (BSRI, Bem 1974) and the Personal Attributes Questionnaire (PAQ, Spence, Helmreich and Stapp 1975) prompted wide-ranging investigation among social psychologists with respect to the implications of psychological gender for behaviour. Shortly thereafter, the scope of scholarship broadened to incorporate psychological gender as an individual difference variable in information processing. In Chapter 6, Bem's gender schema theory (1981) and the Markus et al. self-schema conceptualization (1982) are introduced as two frequently cited theories concerning the role of psychological gender in cognition. Neither theory has received solid empirical support. However, agency and communion (as measured by the BSRI and PAQ scales) do appear to account for certain behaviours and responses that are relevant to these constructs, if not to the broader domains of masculinity and femininity. Accordingly, Chapter 6 reviews only that empirical evidence which pertains directly to agency and communion, and further, is confined to discussion of social psychological literature. Empirical evidence concerning agency and communion in consumer behaviour contexts is reviewed and discussed in Chapter 7.

GENDER SCHEMA THEORY AND SELF-SCHEMA THEORY

Both gender schema theory (Bem 1981) and self-schema theory (Markus, Crane, Bernstein and Siladi 1982) propose that psychological gender's impact on cognition derives from the assimilation of gender schemata to the individual's self-concept. According to Bem, individuals become conventionally sex-typed (masculine or feminine) when the appropriate schema for biological sex is assimilated to the self-concept. Those who are non-sex-typed (androgynous or undifferentiated) are not deficient in gender knowledge, but rather, do not have a masculine or feminine gender schema directly tied to the self-concept. Those with gender identity in the opposite direction of biological sex (feminine males or masculine females) are denoted as cross-sex-typed, and Bem was unable to accommodate them within her theory. Markus et al., however, do not distinguish between sex-typed and cross-sex-typed individuals, but theorize that the masculine schematic has a masculine schema assimilated to the self-concept, while the feminine schematic incorporates a feminine schema. According to self-schema theory, both masculine and feminine gender schemata are incorporated within the self-concept of the androgynous individual, making them bi-schematic rather than aschematic. The only true aschematic in self-schema theory is the undifferentiated individual, whom Markus describes as deficient in gender knowledge as well as having no gender schemata assimilated to the self-concept. Although the two theories define gender schematicity somewhat differently, Bem and Markus et al. agree that gender schematics should exhibit a greater readiness to process information on the basis of gender than would aschematic individuals.

As reviewed in Chapter 3, the Meyers-Levy et al. research on the selectivity hypothesis proposes that sex differences in information processing hinge upon the agentic/communal distinction between males and females. Given that gender schema theory and self-schema theory are two accounts of information processing differences based upon psychological gender (which incorporates agency and communion as components of masculinity and femininity), it is tempting to assume that one of these theories should provide the theoretical basis for expanding the selectivity hypothesis beyond biological sex. Unfortunately, the information processing predictions derived from gender schema theory and self-schema theory have at best received mixed support following initial theory testing (e.g., Archer, Smith and Kilpatrick 1995; Deaux, Kite and Lewis 1985; Edwards and Spence 1987; Forbach, Evans and Bodine 1986; Kite and Deaux 1986; Krahé 1989; Markus, Moreland and Smith 1985; Payne, Conor and Colletti 1987). Neither Bem nor Markus has contributed additional compelling evidence in support of these theories. Bem has maintained and expanded her position on gender identity and information processing, but has done so primarily at a conceptual level (Bem 1993). Furthermore, Markus has shifted the focus of her self-concept research from gender schematicity toward a conception of the self as either "separate" from or "connected" with others (Catrambone and Markus 1987; Cross and Markus 1993; Josephs, Markus and Tafarodi 1992; Markus and Kitayama 1991; Markus and Oyserman 1989).

EMPIRICAL EVIDENCE CONCERNING AGENCY AND COMMUNION

In addition to studies that have attempted to replicate the initial theory testing results published by Bem (1981) and Markus et al. (1982), gender schema theory and self-schema theory have spawned a vast literature addressing the impact of gender identity on psychological processes. For example, researchers have devoted considerable attention to gender schematicity's relationship with adherence to sex-role stereotypes and their impact on person perception (e.g., Beauvais and Spence 1987; Bem and Lenney 1976; Frable 1989; Hudak 1983; Katz, Silvern and Coulter 1990; Lippa 1983; Lorenzi-Cioldi 1993; Miller 1984; Mills and Tyrrell 1983; Moore, Graziano and Millar 1987; Skitka and Maslach 1990; Taylor and Falcone 1982). However, little research that pertains directly to the investigation of agency and communion has appeared. Furthermore, a great deal of the empirical evidence that does concern responses relevant to the constructs of agency and communion is characterized by ANOVA analysis that treats gender schematicity as one four-level factor rather than a two-level crossed framework. Only when cell means are reported can these results be reconstructed according to the proper factorial design. Nevertheless, certain findings concerning conformity, nurture, communication style, conflict resolution, and person perception indicate that agency and communion do predict behaviours and perceptions that are consistent with the orientations proposed by Bakan (1966). These findings as well as their relevance to consumer behaviour are reviewed below.

Conformity

Bem's initial research (1975) concentrated on challenging masculinity and femininity as the respective hallmarks of the psychologically healthy male and female. Sex role differentiation, she believed, hindered rather than facilitated psychological development. Accordingly, she argued that one positive consequence of psychological androgyny concerned the ability of non-sex-typed individuals to engage in situationally appropriate behaviour with little concern for its stereotypic sex-appropriateness. The first of two experiments designed to test this proposition used a standard conformity task. Nine masculine, nine androgynous and nine feminine subjects of each sex were pre-selected on the basis of BSRI differences scores. Masculine and androgynous subjects were expected to demonstrate masculine independence and thus conform on fewer trials than feminine subjects. Results for masculine subjects were not expected to differ from those for androgynous subjects, and Bem did not anticipate sex differences. All predictions were confirmed.

Because Bem used the t-test method for classifying subjects, results for the high M/high F and low M/low F cannot be reconstructed from the reported cell means. However, means reported for the other two quadrants indicate that these results are consistent with an agency and communion interpretation. Those scoring high on BSRI F (communion) and low on BRSI M (agency) may have conformed because of their concern for harmonious interpersonal relationships, while high M/low F scorers demonstrated agentic qualities of independence and self-reliance.

Nurture

Bem (1975) also examined the communal trait of nurture in her initial research phase. Eleven masculine, eleven androgynous and eleven feminine subjects of each sex were selected. Bem hypothesized that when subjects interacted with a kitten, feminine and androgynous subjects would interact more and report higher levels of enjoyment than would masculine subjects. Dependent measures included amount of touching during forced play, amount of interaction during spontaneous play, enjoyment during forced play, and an overall involvement composite of the three measures.

Bem did not expect that sex would interact with gender identity, but found that male and female response patterns differed. Results for males confirmed Bem's hypotheses; as expected, feminine and androgynous males demonstrated greater overall involvement with the kitten than masculine males, with no differences between feminine and androgynous males. The three groups of males did not differ in the amount of touching during forced play, but following forced play, feminine and androgynous males reported higher levels of enjoyment, and interacted with the kitten on more observation trials during spontaneous play than did masculine males.

Results for females provided little support for Bem's predictions. Feminine and androgynous females did not demonstrate greater levels of overall involvement than masculine females. In addition to demonstrating less overall involvement than androgynous females, feminine females touched the kitten less during forced play, reported lower levels of enjoyment, and interacted less with the kitten during spontaneous play. Masculine females interacted with the kitten more during spontaneous play than feminine females, but did not differ from feminine females on any of the remaining three dependent measures.

In order to address Bem's surprising results for nurturing behaviour among feminine females (1975), Bem, Martyna and Watson (1976) continued to examine sex-type and nurturing behaviour. Feminine females, they hypothesized, might have demonstrated higher levels of nurture if they had been interacting with another human being, or if the situation had been structured so that it required little assertiveness in order to act on the impulse to nurture. Accordingly, the first study allowed subjects to interact with a baby, while the second required participants to listen to a fellow student sharing unhappy emotions.

Fourteen masculine, androgynous and feminine members of each sex were selected on the basis of BSRI difference scores. However, because these results were reported subsequent to the Spence et al. (1975) recommendation that androgynous (high masculinity and femininity) subjects should be distinguished from undifferentiated (low masculinity and femininity) subjects, Bem et al. divided the androgynous subjects into high/high and low/low groups, and analyzed their data according to four rather than three sex-type groups. Concerning interaction with a human baby, planned comparisons demonstrated that masculine subjects were less nurturing than androgynous or feminine subjects, and that feminine and androgynous subjects did not differ. Androgynous subjects were more nurturing than undifferentiated subjects. Bem et al. concluded that the feminine female's low level of nurture in the 1975 study occurred because the task required interaction with a kitten rather than a human. Their second study provided further confirmation of their hypotheses. Masculine subjects were again less nurturing than androgynous and feminine subjects, who did not differ in nurture.

As with the conformity investigation, these results are consistent with an agency/communion interpretation. Those with high levels of communion (androgynous and feminine) demonstrated higher levels of nurture with another human being than those with low levels (masculine). Furthermore, the initial results obtained with a kitten are also consistent with the agentic/communal characterization of the self-concept as separate from or connected with other *persons*.

Communication Style

Warfel's investigation of gender schemas and speech style (1984) found support for one of four hypotheses: that sex-typed subjects associated powerless speech (characterized by the presence of qualifiers, compound requests, tag questions and disclaimers) with femininity, while speech characterized by the absence of these qualities was regarded as masculine. Unfortunately, Warfel's MANOVA analysis collapsed the two M-scale and two F-scale quadrants (low, high) into one 2-level factor (sex-typed, non-sex-typed). Furthermore, her exclusion of cross-sex-typed subjects meant that sex and gender were partially confounded. Neither was subject sex included as an independent variable.

More recent investigations of communication style have addressed these shortcomings. Leaper, for example, argued that differences in communication style that had been attributed to gender were perhaps more properly explained by individual differences in agency and communion (1987). Previous gender difference research in communication style had typically found that women demonstrate a communal orientation in conversation, discussing other people more often than did men, and using supportive and expressive language. The male agentic orientation was typified by conversations concerning topics such as work or sports, and more frequent use of controlling and instrumental language. Leaper, however, hypothesized that high-agency speakers would do more talking, and would use more active self-references, fewer passive self-references and fewer indirect statements than low-agency speakers. High-communion speakers were expected to use fewer impersonal references, make more references to the conversational partner, and to be better liked. Leaper also predicted that all of these relationships would be independent of biological sex.

Seventy-six members of each sex were paired in male/female conversational dyads and behaviour was coded from tape-recorded transcripts by independent judges. Although subject agency and communion were not completely crossed, Leaper balanced dyads for sex and constructed pairs according to the PAQ median split combinations conventionally referred to as androgynous, masculine, feminine and undifferentiated. These consisted of AA, UU, AU, MM, FF, and MF dyads. Multiple regression analyses using the PAQ raw M and F scores obtained at a previous session revealed that sex did not predict a significant amount of variance in any of the language variables under investigation. As Leaper predicted, agency predicted a significant amount of the variance in subjects' use of indirect statements ($r = -.19, p < .02$) and passive self-references ($r = -.18, p < .05$). Communion predicted a significant amount of variance in talkativeness ($r = .21, p < .02$); results for use of impersonal references were in the expected direction but not significant ($r = -.14, p < .10$). Active self-references and references to others were not accounted for by agency, communion or sex.

While Leaper used actual talkativeness as a dependent measure, Jose and McCarthy focused on the perceptions of group members in their investigation of mixed-sex group communication (1988). After participating in conversations in mixed-sex groups of four, all participants rated their group members on talkativeness, quality of ideas, and concern for others' feelings; objective ratings were not obtained. BSRI M and F scores were available from a testing session one week prior to the experimental session, although this information was not used to vary the composition of the groups. While Leaper found that communion predicted actual talkativeness, Jose and McCarthy's regression results demonstrated that subjects high in masculinity or agency, rather than femininity or communion, were perceived to have talked more ($r = .40, p < .01$) and to have had good ideas ($r = .42, p < .01$). Females and subjects with high femininity scores were perceived as more concerned with group feelings ($r = .44, p < .01$; $r = .43, p < .01$).

Conflict Resolution

In their investigation of the relationship between style of conflict resolution and role orientation among female managers, Portello and Long (1994) hypothesized that women who scored high on BSRI M would also provide higher self-report scores on measures of dominating conflict handling style. Conversely, women with high BSRI F levels were expected to score higher on measures of compromising, obliging and avoiding conflict handling style. Both of these hypotheses were supported with significant multivariate tests. Although univariate F-test results were reported for the dependent measures, appropriate follow-up tests were not conducted. Conflict handling styles did not differ for interpersonal or ethical conflicts.

Person Perception

Several person perception studies have examined the relationship between subject sex-type and the organization of target stimuli into male and female categories. One stream of person perception research, described as the "who said what" paradigm, has specifically examined the relationship between psychological gender and the propensity to make within-category (i.e., confuse statements made by one woman with those made by another female) and between-category errors (i.e., mistake a man for a woman). According to gender schema theory, sex-typed individuals should be more prone to within-category errors, because of a greater attention to the sex of the speaker than to individuating characteristics. Only mixed support has been found for this prediction. Furthermore, studies conducted by Taylor and Falcone (1982), Frable and Bem (1985), and Lorenzi-Cioldi (1993) are all characterized by ANOVA analyses that collapse the appropriate two-factor model into one four-level factor.

It appears reasonable to expect that highly communally oriented subjects should pay more attention to others and therefore make fewer within-category errors than individuals with agentic orientation. However, this evidence cannot be reconstructed from data reported in the studies cited above. Furthermore, when regression analysis with adequate sample sizes has been conducted, no effects have been found for either the BSRI or PAQ scale scores (Beauvais and Spence 1987).

Investigating the impact of psychological gender on identification with fictitious characters, Jose (1989) found an interaction between the gender roles of readers and characters when subjects were asked to rate their identification with male and female story characters. Arguing that a combination of BSRI and PAQ scores would be more reliable than either instrument on its own, Jose used composite scores with the median split classification method to categorize subjects as androgynous (17 males, 18 females), masculine (28 males, 7 females), feminine (9 males, 25 females) and undifferentiated (15 males, 23 females). As predicted, masculine (high M/low F) readers identified more strongly with masculine characters than feminine characters, and feminine (low M/high F) readers identified more strongly with feminine characters. Androgynous (high M and F) and undifferentiated (low M and F) subjects identified equally with masculine and feminine characters; however, androgynous readers reported stronger levels of identification with both types of characters than did undifferentiated subjects.

Empathy, as measured by the empathy sub-scale of the Interpersonal Reactivity Index (Davis 1983; cited in Jose 1989) was a significant predictor of identification level across all subjects. As anticipated, this measure of empathy was significantly correlated with composite BSRI-PAQ F scores ($r = .50$, $p < .001$), and subjects classified as feminine (low M/high F) identified more strongly with all story character combinations of gender and gender role than did masculine and undifferentiated subjects. These results suggest that while individuals may identify most strongly with fictitious characters whose levels of agency and communion closely resemble their own orientation, those who are highly communal are best able to understand and identify with the concerns of others.

CONCLUSION

As reviewed in Chapter 3, the selectivity hypothesis proposes that males are more responsive to advertising messages that are congruent with the agentic role prescribed for their sex, while females are equally persuaded by agentic and communal appeals. Furthermore, females are said to engage in more elaborate and effortful processing than do males. Findings reported in social psychology concerning agency and communion afford some degree of insight into the means by which the sex differences reported by Meyers-Levy et al. may occur. In particular, the results concerning conformity (Bem 1975), reader identification (Jose 1989), and conflict resolution (Portello and Long 1994) suggest alternative interpretations based on agency and communion rather than biological sex. First, the effortful processing attributed to females may reflect a desire to conform to the demands of the experimental task rather than a general propensity for elaboration.

Women, somewhat more likely to be communal, may simply be more motivated than men to perform well in this context. Secondly, the interpersonal sensitivity and empathy attributed to the communally oriented individual appears to predispose them to engage more fully in an identification or self-referencing process, regardless of the target of their perception. Agentic individuals, however, appear less able to empathize with targets that do not resemble their own orientation. Both of these observations are consistent with selectivity hypothesis evidence concerning equivalent response among women to both agentic and communal appeals as well as the male preference for the agentic appeal. Thirdly, conflict resolution results suggest that counterargument may take different forms among agentic and communal individuals, with the communal style of compromise and accommodation perhaps requiring more extensive message elaboration than the agentic dominating style. Finally, results pertaining to communication style and language use suggest that construction of agentic and communal appeals may be much more complex than simple reference to the self and/or others. Consumers' perceptions of "masculine" and feminine" speech styles may also be important determinants of whether an appeal is regarded as congruent or incongruent with the perceiver's own orientation.

CHAPTER 7

AGENCY AND COMMUNION IN CONSUMER BEHAVIOUR STUDIES

INTRODUCTION

Very little consumer behaviour research relevant to the constructs of agency and communion has been published. Furthermore, as with social psychology investigations, the existing literature is typified by analyses in which psychological gender is treated as a single four-level factor rather than the appropriate factorial crossing of "masculinity" and "femininity". Now largely discredited, this stream of research produced few significant experimental results during the 1970s and 1980s, to the extent that certain researchers have argued that biological sex and psychological gender are linked so closely as to negate any predictive value associated with gender-identity measures (e.g., Roberts 1984; Schmitt, Leclerc, and Dubé-Rioux 1988; Stern 1988).

Nevertheless, when attention is focused more closely on the substantive domains in which agency and communion are relevant constructs, evidence against simple biological sex prediction begins to accumulate. Accordingly, Chapter 7 reviews relevant literature concerning the relationship of M and F indices with cognitive measures (product perceptions, recall, response to role portrayals) and behaviour (leisure participation, responsibility for household decision-making and domestic responsibilities, and shopping behaviour). Methodological and theoretical issues that may have contributed to null results are examined briefly, and where possible, results are reinterpreted according to a two-factor Self- and Other-orientation framework.

AGENCY, COMMUNION AND COGNITIVE MEASURES

Product Perceptions

Soon after the appearance of the BSRI (Bem 1974) and PAQ (Spence, Helmreich and Stapp 1975), consumer behaviour researchers began to explore the ramifications of psychological gender in marketing. However, little support was found for the importance of sex-role self-concept with respect to attitudes toward products, perceptions of sex-appropriateness, and usage rates (Allison, Golden, Mullet and Coogan 1980; Gentry and Doering 1977; Gentry, Doering and O'Brien 1978). Basing their predictions on Bem's 1975 findings with regard to sex-role adaptability, these researchers hypothesized that masculine (feminine) subjects would report more favourable attitudes and higher usage rates for products that they viewed as masculine (feminine), and lower usage rates for cross-gender activities and products. Androgynous and undifferentiated subjects were expected to use and be more favourable toward products that were not necessarily gender-appropriate. In general, the relationships they found for sex-type were consistent with gender stereotypes. For example, products that females used more often and had more favourable attitudes toward were similarly rated by feminine subjects. For all dependent measures, however, biological sex was a better predictor than psychological gender.

Schmitt, Leclerc, and Dubé-Rioux (1988) also investigated the impact of gender identity on product perceptions, presenting subjects with four professionally rendered drawings of fragrance flacons (two masculine and two feminine shaped), and asking them to indicate how appealing they would find each container if they were purchasing fragrance for themselves, a male friend, or a female friend. After finishing the experimental tasks, their 151 subjects completed the long BSRI, and were categorized according to median splits, using the sample medians of 103 on the M scale and 98 on the F scale. Cross-sex-typed subjects were dropped from the analysis, leaving 26 masculine, 30 feminine, 39 androgynous (21 male and 18 female), and 37 undifferentiated (18 male and 19 female) subjects. Schmitt et al. hypothesized that gender-schematics would show stronger preferences than aschematics for sex-appropriate fragrance flacons.

Their 2 (sex) by 3 (androgynous, undifferentiated, sex-typed) by 4 (flacon shape) MANOVA did reveal a significant main effect for sex-type. This was traced to the tendency of androgynous individuals to rate all of the containers more favourably than did the other groups, regardless of masculine or feminine shape. Shape of flacon interacted with sex, such that males tended to select the masculine container for their own use and that of their male friends, while females preferred the feminine containers. As with earlier research in product perceptions, stereotypic connotations and corresponding societal constraints relative to this product class probably played a role in preference formation. Subjects would have been well aware that women's fragrances are invariably packaged in containers with "feminine", refined, and rounded shapes, while men's fragrances are packaged in more "masculine", angular or rectangular shapes. Furthermore, women's fragrances and men's fragrances are identifiably different in scent, and our culture has strong ideas about the respective appropriateness of each for the sexes. Given these factors, it is hardly surprising that women and men would prefer, both for themselves and for their same-sex friends, the flacon shapes that they knew from experience would contain the appropriate type of scent for their sex.

The foregoing findings indicate that PAQ and BSRI scores contribute little or no explanatory power once biological sex is known. However, certain methodological shortcomings should be noted. None of these investigations treated gender identity as two crossed factors of masculinity and femininity, and with the exception of Schmitt et al., all analyzed males and females within the same sex-typed category. The inability to detect a sex by scale score interaction was problematic, given that stereotypic gender prescriptions were likely to be important factors in product perceptions, attitudes and usage.

A more recent investigation, which avoided the gender-sex confound by controlling for sex, found that even a product (beer) normally regarded as masculine could be effectively positioned in masculine and feminine terms (Worth, Smith and Mackie 1992). Gender identity was unrelated to subjects' perceptions regarding the product's frequency of use by males and females, similar to the results reported by Gentry and colleagues in the late 1970s (Gentry and Doering 1977; Gentry, Doering and O'Brien 1978). However, gender identity did mediate preferences measured following experimental manipulation.

Forty male subjects used 11-point scales to indicate the degree to which three masculine items (masculine, dominant and aggressive) and three feminine items (feminine, dependent, emotional) were self-characteristic, and how important these traits were to themselves. These six items were embedded within a 25-item self-evaluative questionnaire that was administered before the experimental task. Those subjects who indicated that all three masculine items were true of them and important to them, as well as stating that two or fewer of the feminine items were true and important were classified as High Masculine. Those demonstrating the reverse response pattern were classified as Low Masculine. Unfortunately, masculinity and femininity were not completely crossed. Subjects who endorsed neither masculine nor feminine items, as well as those who endorsed both masculine and feminine items were excluded from analysis, leaving 18 High Masculine and 16 Low Masculine subjects.

Following completion of product knowledge items, half the subjects read advertising copy for a hypothetical new beer (Brand X) couched in masculine terms (tough, dominates, strong, aggressive, asserts, leader) while the other half received feminine descriptions (tender, smooth, gentle, yields, sensitive, one you love). Dependent measures included subjects' ratings of the beer's attributes, overall liking, and purchase likelihood, which were combined to form a single favourability index. As expected, the interaction between masculinity and product description (masculine or feminine) demonstrated that High Masculine subjects evaluated the beer more favourably when it was described in masculine terms, while Low Masculine subjects preferred the beer described as feminine.

In a second study, Worth et al. recruited 72 female subjects and classified them as High or Low Feminine according to the extent to which subjects reported that "masculine" and "feminine" were both self-descriptive and important. As with the first study, these two items were embedded within a 25-item questionnaire administered prior to the experimental task. Ratings for these two items were standardized, and subjects with scores higher than the feminine mean and lower than the masculine mean were characterized as High Feminine, while those demonstrating the reverse pattern were characterized as Low Feminine. Again, masculinity and femininity were not fully crossed; data from the 24 subjects who scored either above or below the mean on both the masculine and feminine items were excluded.

After completing a product knowledge questionnaire on blue jeans, subjects read nine product statements about Brand X jeans that appeared on laboratory computers. After reading the statements, subjects supplied product liking, product typicality, and purchase likelihood measures by pressing any number between 1 and 9 on their keypads. These items were subsequently combined into a single favourability index. All information conditions included three neutral statements embedded within the four masculinity and femininity description conditions. In addition to the neutral items, the first condition received six masculine statements while the second received six feminine statements. A third condition was presented with three feminine items followed by three masculine items, and a fourth condition received the reverse order. As predicted, Low Feminine subjects were most favourable toward the jeans when they were described in masculine terms, while High Feminines preferred the feminine description. The ratings for the jeans described in mixed terms fell between the ratings for masculine and feminine descriptions, with High and Low Feminines being equally favourable.

That biological sex should be an important *a priori* predictor of product preferences and perceptions is not surprising, given that strong cultural prescriptions appear to exist for many product classes. Of particular interest in this context is the Worth et al. finding that individuals appear to respond most favourably to the appeals that are most closely aligned with their self-concepts. Furthermore, if we can assume that the measures of masculinity and femininity used by Worth et al. correspond to the constructs of Self- and Other-orientation, their research provides evidence that contradicts selectivity hypothesis predictions concerning agentic and communal appeals (Meyers-Levy 1988). First, male response to the masculine/agentic and feminine/communal attribute manipulation differed according to individual levels of masculinity and femininity. The

Meyers-Levy proposal, however, would predict no differences; rather, all males should have preferred the agentic appeal. Second, Meyers-Levy also would predict that females would be equally responsive to "masculine" and "feminine" advertising manipulations. As among males, however, ratings varied according to individual differences in M and F scores.

Recall

Among the first attempts to incorporate Bem's (1981) theories of information processing among gender schematic and gender aschematic individuals in a marketing context came from Gentry and Haley (1983), who formulated two hypotheses concerning advertisement recall. First, they believed that sex-typed individuals would recall more frequently than cross-sex-typed individuals those advertisements in which the sex of the spokesperson matched the gender of the product (e.g., male spokesperson with masculine product), because their gender schemata would allow them to process this information more efficiently. Second, they also believed that sex-typed individuals would be more attentive to the incongruity posed by spokesperson-stimulus "mismatch" and would process these ads at a deeper cognitive level than would cross-sex-typed subjects, therefore also demonstrating superior recall for incongruent ads. Neither of these hypotheses was supported.

Schmitt, Leclerc and Dubé-Rioux (1988) used 18 popular American magazines classified as masculine, feminine or neutral on the basis of Simmons readership data and pre-test ratings as stimuli for their investigation of sex-type and recall. Magazine titles were randomly presented one after the other with duration and interval times of 500 ms.

on an Apple MacIntosh computer. Subjects were instructed that they were to imagine that they were in a doctor's waiting room and that these magazines were sitting on a table. After exposure, subjects were asked to enter the names of the magazines that they could remember. It was predicted that schematic subjects would be more likely than aschematics to remember sex-appropriate magazines, and that they would be more prone to cluster these magazines on the basis of gender in the recall task.

After the responses of cross-sex-typed subjects and those of three subjects who followed instructions incorrectly were deleted, the sample for this second experiment included 17 schematics (seven males and 10 females) and 22 aschematics (nine males and 13 females). Schmitt et al. found no differences between schematics and aschematics with respect to free recall of magazines by category. However, the interaction between magazine type and sex was significant ($p < .0001$), with females recalling significantly more feminine magazines than males, and males recalling more masculine magazines than females. Neutral titles were not recalled differentially by sex. Overall recall measures were not reported, but the figures for recall by sex and type of magazine suggest that females appeared to recall more magazines overall than males. Contrary to predictions regarding category clustering, female gender aschematics exhibited greater gender clustering than did female schematics and no differences appeared between schematic and aschematic males.

These results did not support gender schema theory, but as with product perception studies, product class knowledge may have been a factor. That females appeared to recall more magazines overall may be explained by the fact that women tend to be heavier magazine readers than men (Bartos 1982), and therefore could be more familiar with and more easily recall any one of the 18 magazines. Differential recall by sex of sex-appropriate magazines may simply indicate overall differences in readership.

Contrary clustering results also may be explained by product usage and knowledge. The two most probable methods of classifying magazines within memory are by personal readership and by gender, and these are likely to coincide. Bartos has noted that career women are heavier readers of magazines than all other population segments, and that career women in particular read general men's business, sports and science magazines. If female androgyny is related to career achievement, as well as enrolment in traditionally male-dominated university faculties (Lavallée and Pelletier 1992), then this sample may have included androgynous or aschematic women with such a readership pattern. These women would have been exposed more often to the normal retail practice that groups magazines according to sex and content, simply because they purchased more frequently. If their choices were broader in terms of sex-appropriateness, this retail practice may have been more salient for them than for other groups. Therefore it seems reasonable to expect that these women might categorize magazines in memory according to "gendered" titles, which would have led to a greater degree of gender clustering in recall. Gender schematic females, who might choose more often from among women's titles, would have less cognitive need for the entire range of categories, and thus might cluster less in recall. The fact that both gender schematic and aschematic males demonstrated the same amount of clustering could be related to lower overall readership as well as low response to traditionally female magazines.

An additional Schmitt et al. experiment exposed 30 gender schematic subjects (15 male and 15 female) and 30 gender aschematic subjects (15 male and 15 female) to 30 slides of advertisements, each of which was shown for five seconds and represented a college student reading a magazine. In these slides, the sex of the reader was crossed with the type of magazine (feminine, masculine or neutral), thus creating six of each stimulus combination. Stimuli were shown in random order, and then subjects were asked whether the reader of each magazine had been male or female. Schematic subjects were expected to recall more sex-role conformist advertisements than sex-role nonconformist advertisements, while aschematic subjects were not expected to demonstrate this differential recall. Schmitt et al. noted that recall tests of schema-inconsistent and consistent information had produced conflicting results in terms of the type of information best remembered, but regardless of whether subjects recalled conformist or nonconformist representations better, they still expected to find differences between schematic and aschematic subjects.

Instead, they found that all subjects, regardless of sex and sex type, remembered the sex of the person in the conformist advertisements better than the sex of those in nonconformist representations. When a male was shown, subjects remembered his sex more accurately when he was shown with a masculine or neutral magazine than with a feminine magazine, and when a female was shown, subjects remembered her sex better when she was paired with a feminine magazine than with a masculine or neutral magazine. Probably all subjects were able to recall some advertisements, and then simply made inferences on the basis of stereotypes to fill in the blanks, thus producing more correct responses when the advertisement was conformist than nonconformist.

Null results concerning the relationship between gender identity and advertisement recall also were reported by Worth, Smith, and Mackie (1992). After completing favourability ratings for beer described in masculine or feminine terms (see Product Perceptions for method description), male subjects also were asked to recall the product description. No gender identity effects were found for either the recall task conducted during the experimental session or for the delayed recall task one week later. Recall data for female subjects exposed to the jeans advertisements indicated that more feminine than masculine items were accurately recalled, but results did not differ according to gender identity.

The tendency among consumer behaviour researchers to confound sex with gender and to treat gender as a four-level factor may account for null results. Equally questionable is the failure to incorporate signal detection methods (e.g., Shapiro 1994) as a means of controlling for schema-based guessing. The Schmitt et al. (1988) results in particular suggest that all subjects relied to some extent on such a strategy. Certainly unaided recall is of interest to advertising research. However, no conclusions concerning the relationship between gender identity and accuracy of memory for schema-consistent and inconsistent information can be drawn until data elicited with an appropriate recognition task is gathered and analysed appropriately.

Stern's review of sex-role self-concept marketing studies noted the conflicting results reported by this research stream, and attributed the frequent absence of sex-role effects to the fact that biological sex was a better predictor of attitudes and preferences than psychological gender (1988). Stern also accepted the androgynous/undifferentiated distinction produced by median splits as an improvement in sex-role self-concept measurement, and made no reference to the theoretical or analytical implications of this scoring and classification method. However, she concluded that because gender was a complex subject, Roberts' recommendation (1984) that psychological gender be abandoned as a research issue was perhaps premature.

The timing of Stern's remarks coincided with the Schmitt et al. *Journal of Consumer Research* publication. Given their disappointing results, it is understandable but unfortunate that Schmitt et al. should have concluded that gender identity was not an important individual difference variable in consumer behaviour. However, their conclusions were particularly problematic in that easily resolved methodological issues may have contributed to the null results that effectively terminated discussion of gender identity in the top marketing journals.

Attitudes Toward Role Portrayals

Several consumer behaviour researchers have examined role portrayal issues in advertising. The bulk of this research, however, provides little insight into the impact of individual differences in agency and communion on advertisement evaluations. In certain cases, perceiver characteristics have not been measured (Debevec and Iyer 1986 1988); in other instances attitudes toward gender roles (Alreck, Settle and Belch 1982; Jaffe and Berger 1994; Leigh, Rethans and Whitney 1987; McIntyre, Hosch, Harris and Norvell 1986) or career orientation have been measured (Bellizzi and Milner 1991). While these results do indicate that perceiver characteristics interact with role portrayals, they are not directly relevant to the investigation of agency and communion as possible mediators of effectiveness.

The Schmitt, Leclerc, and Dubé-Rioux study was among the first investigations of perceiver gender identity and advertising role portrayals (1988). Subjects viewed 12 jeans advertisements that featured a man or a woman in either a sex-role conformist, non-conformist, or neutral representation, and indicated for each of the 12 advertisements how much they liked the person portrayed, how similar they thought they were to that person, and how effective they thought the advertisement might be in convincing people to buy the product. After finishing the experimental tasks, their 151 subjects completed the long BSRI, and were categorized according to median splits, using the sample medians of 103 on the M scale and 98 on the F scale. Cross-sex-typed subjects were dropped from the analysis, leaving 26 masculine, 30 feminine, 39 androgynous (21 male and 18 female), and 37 undifferentiated (18 male and 19 female) subjects. Relative to gender-aschematic subjects, gender-schematic subjects were expected to demonstrate a more positive attitude toward sex-role conformist advertisements than toward sex-role nonconformist advertisements.

As expected, similarity ratings provided by aschematic subjects (High M/High F and Low M/Low F) did not differ significantly by spokesperson, while conventionally sex-typed subjects were sensitive to the masculine and feminine manipulation. Schematic males (High M/Low F) identified to a greater degree with the masculine spokesperson, and schematic females (Low M/High F) identified to a greater degree with the feminine spokesperson. However, this manipulation appeared to have no impact on their attitudes toward the jeans advertisements. Analysis of composite attitude scores (liking of spokesperson and ad effectiveness), calculated separately for conformist, non-conformist and neutral advertisements, revealed only one significant effect for type of advertisement. Neutral advertisements were preferred and believed to be more effective than both sex-conformist and non-conformist representations. Because they were asked to assess the effectiveness of the advertisements with respect to viewers in general, rather than for themselves personally, these undergraduate marketing students may have judged the neutral advertisements as the most effective appeal for a mixed audience of male and female consumers.

Subsequent role portrayal research has reported results compatible with those documented by Worth, Smith and Mackie (1992), in that the effectiveness of role manipulations appeared to depend on individual M and F differences. Jaffe and Berger (1988), for example, examined the impact of sex-role self-concept and role portrayal on purchasing intentions. After viewing print ads for tomato paste and bathroom cleaner, in which traditional and modern positioning were manipulated, a sample of 100 university women provided measures of purchase intention, and then completed the short BSRI. These women were classified according to median splits based on Bem's normative data, resulting in 30 masculine, 30 feminine, 36 androgynous and four undifferentiated respondents. The undifferentiated respondents and six randomly selected androgynous respondents were dropped from the subsequent analysis, leaving three equal cells of 30 masculine (High M/Low F), 30 feminine (Low M/High F) and 30 androgynous (High M/High F) women.

Jaffe and Berger found a main effect for positioning, with modern role portrayals perceived more favourably than traditional role portrayals. However, significant masculinity by positioning and femininity by positioning interactions qualified this effect. Furthermore, a significant three-way interaction among sex-role, positioning and product category demonstrated that the two-way interactions differed according to product. For tomato paste, the interaction of positioning and sex-role was such that masculine women preferred the modern positioning, as did androgynous women, although to a lesser degree. Feminine women preferred traditional positioning and all groups were significantly different. For household cleaner, the interaction between positioning and sex-role was not significant. Post-experimental interviews with subjects revealed that many women regarded the modern positioning for household cleaner, which showed a man using the product, as unrealistic.

Jaffe (1990) continued her investigation of positioning and role portrayal by examining the impact of these variables on women's stated purchase probabilities for financial services. Using the short BSRI, Jaffe classified 200 adult women ranging in age from 25 to 49 into high and low masculinity and femininity categories. Modern portrayals featured agentic copy, such as "You've been working hard and you're a success. While you've been achieving your goals, we've been achieving ours by providing the best financial services to keep your money working hard for you." The traditional copy was communal in nature: "We're as concerned about your family's well-being as you are. While you've been taking the best care of your family, we've been working on the best financial services to meet your family's needs."

Results similar to those achieved with her earlier experiments were obtained. Jaffe reported that the modern portrayal was rated more highly than the traditional positioning on the dependent measure of purchase probability. Significant two-way interactions between masculinity and positioning and femininity and positioning also were found. Women with higher masculinity scores reported higher ratings for the modern role portrayal, while those lower in masculinity showed no differences between modern and traditional positioning. Although modern positioning contributed to higher purchase probability for both high and low femininity women, the modern positioning advantage was more important to low femininity than high femininity women. Post-experimental interviews conducted with 20 subjects provided further insight concerning the main effect for positioning. Apparently modern women were perceived as better able to make financial decisions and therefore were more credible spokespersons.

Jaffe later reported additional data gathered during the 1990 experiment. Results for information interest and purchase intentions paralleled those reported earlier for the purchase probability measure, with a significant main effect for modern positioning, and significant M by positioning and F by positioning interactions (1991). Positioning accounted for 8% of the variance in information interest, while positioning by M and positioning by F accounted for 10% and 2% of the variance respectively (Jaffe 1994). Finally, hierarchical regression analysis determined that the positioning interactions with BSRI scales explained incremental variance over that accounted for by positioning in interaction with demographic variables. As a group, the interactions between positioning and demographic variables accounted for 6% of the variance in purchase probability, with the positioning by scale score interactions adding another 13%. For information interest, the positioning by demographics interaction accounted for 4% of the variance, with the positioning by scale score interactions adding 9%. Overall, the two regression equations accounted for 31% of the variance in purchase probability and 22% of the variance in information interest.

Similar to Worth et al. (1992), Jaffe's results were more compatible with an individual Self- and Other-orientation difference interpretation than with selectivity hypothesis predictions (Meyers-Levy 1988). Low masculine women behaved as Meyers-

Levy would expect, responding similarly to agentic and communal appeals. High masculine women, however, responded in a manner consistent with the agentic orientation that the selectivity hypothesis ascribes only to males, reacting more favourably to agentic than communal appeals.

AGENCY, COMMUNION AND BEHAVIOUR

In addition to dependent variables related to information processing, gender identity researchers also have examined the extent to which individual M and F scores predict behaviours of interest to marketing. These include leisure activity participation and preferences, household decision-making and task allocation, and shopping behaviour.

Leisure Activities

As with their research concerning product perceptions and usage, Gentry and Doering (1979) and Gentry, Doering and O'Brien (1978) found that biological sex was a better predictor of leisure activity participation than PAQ category. They did, however, observe that androgynous subjects engaged in more leisure activities than those belonging to any other sex-type category. Hirschman (1984) also noted that androgynous individuals reported the broadest range of leisure motives, but found that role orientation, as measured by the PAQ, explained more of the variance in motives for participating in leisure activities than did biological sex.

Consistent support has been found for relationships between biological sex, BSRI M and F scores, and sports participation. Matteo (1986) reported that although sex-typed and non-sex-typed females did not differ in the amount of sports experience with masculine sports, sex-typed males had less experience with feminine sports than did non-sex-typed males. When involvement with sports was assessed by asking subjects to list all those sports to which they made a regular commitment of at least two hours per week, sex-typed males were far less committed to feminine sports than non-sex-typed males, to the extent that sex-typed males did not list any feminine sports at all. Sex-typed females were less committed to masculine sports than non-sex-typed females.

Examining the tendency of subjects to report gender appropriateness as a basis for rejecting sex-inappropriate sports, Matteo (1988) hypothesized that sex-typed subjects would cite gender-related reasons more frequently while non-sex-typed individuals would provide a wider range of reasons and use gender-based stereotypes less frequently. Because of differences in social reward and punishment structures for the sexes, Matteo argued that cross-sex-typed females could be more flexible in their behaviour than could cross-sex-typed males. Therefore, Matteo predicted that cross-sex-typed subjects in general would be more likely than non-sex-typed subjects to cite gender issues as reasons for rejecting a sport and that this tendency would be strongest among males. These predictions were confirmed. Perceived masculinity/femininity ratings of sports obtained by Koivula (1995) provided further support for Matteo's argument regarding both the tendency of sex-typed and cross-sex-typed subjects to adhere to gender stereotypes, as well as the differing implications of cross-sex-typing for females and males.

Although Matteo analyzed her results according to the customary four-level factor of sex-type, reported cell means permit further speculation concerning effects for M, F, and their interaction with biological sex. For example, mean percentages of spontaneous mention of gender stereotypes are identical for High M/Low F males and females (.29), suggesting that biological sex does not interact with masculinity. However, respective percentages for Low M/High F males (.50) and females (.14) differ substantially, supporting Matteo's claim that High F scores have different consequences for males and females. Finally, identical results for High M/High F males and females (both .00), as well as for Low M/Low F males and females (both .14), indicate a two-way interaction between agency and communion.

Examining female involvement in recreational activities, Henderson, Stalnaker and Taylor (1988) surveyed 294 women and classified them according to BSRI median splits. They identified ten factors that acted as barriers to participation: time, money, facilities, family concerns, unawareness, lack of interest, decision-making, body image, skills, and social inappropriateness. Unawareness and decision-making were more important barriers for androgynous (High M/High F), undifferentiated (Low M/Low F) and feminine (Low M/High F) women than for masculine (High M/Low F) women. Lack of interest and body image (items related to lack of self-confidence, self-esteem, fitness, and requisite physical skills) were a greater hindrance to participation for feminine and undifferentiated individuals than for masculine and androgynous women. Because no males were included in the sample, speculation concerning sex by scale interactions is impossible. However, these data suggest a main effect for BSRI M, with High M women experiencing fewer participation barriers related to agentic factors such as decision-making or self-confidence.

Gender identity also has been found to affect involvement in the arts. Conducting a mail survey of 210 women and 147 men, Gainer (1993) collected data on respondent sex, arts attendance, and childhood experience with the arts. Involvement was assessed with Zaichkowsky's Personal Involvement Inventory (1985), while gender identity was measured with the Stern, Barak and Gould Femininity Trait Index (1987; see Chapter 4). Inspection for multicollinearity indicated only weak correlations between sex and gender identity (.25) and between childhood experience with the arts and gender identity (.10).

Gainer hypothesized that although biological sex would not directly affect involvement with the performing arts, both the extent of childhood experience and feminine gender identity would affect involvement. High involvement was expected to be associated with more frequent attendance, but neither sex nor gender identity were expected to be directly related to attendance. Female sex was expected to have a direct relationship with childhood experience only. The hypothesized structural equation model was not rejected, with a chi-square statistic of .66 (1 *df*, p =.416) and an adjusted-goodness-of-fit index of .984. All hypotheses regarding the individual structural relationships also were supported, with t-values greater than 2. Thus, Gainer argued, documented evidence of greater participation rates and heavier usage of performing arts among women than men cannot be explained by either sex or gender identity in a direct sense. Instead, feminine gender identity affects frequency of attendance indirectly though involvement, while sex affects involvement indirectly through childhood arts experience.

Division of Responsibility for Household Tasks and Decision-Making

A handful of studies have examined relationships between the division of responsibility for household tasks and decision-making, measures of attitudes toward gender roles, and the M/F scales of the PAQ and BSRI. These indicate that while both gender role attitudes and instrumentality/expressiveness are related to household responsibilities, gender role attitudes may be the better predictor of household behaviour.

An early study conducted by Burns (1977) reported data from 81 married females who were asked to indicate the manner in which decisions pertaining to the purchase of a car, stereo, television, dinette and sofa would be made in their household ("husband alone", "husband more than wife", "both equally", "wife more than husband", "wife alone"). Decision elements consisted of purchase timing, amount, where to purchase, brand/make, style, and colour. Respondents also completed the PAQ, and were classified as high or low M and high or low F. Chi-square analysis conducted on the cross-tabulations for each of the 30 decisions revealed three instances of significant association between F score and decision-making role, but Burns did not describe these results further. However, Burns did report 14 significant associations between High M and role; of these, 3 were reported as joint decisions (presumably "both equally") and 11 were described as wife-influenced (presumably "wife more than husband" or "wife alone").

Nyquist, Slivken, Spence and Helmreich (1985) also found that instrumentality and expressiveness were significantly related to household decision-making as well as responsibility for domestic tasks. Among women, the higher the PAQ M score, the more active a woman was in major financial and investment decisions. Husbands high on the PAQ M scale assumed greater decision-making responsibility than did low M scorers; high F males tended to share decision-making. Domestic responsibilities traditionally assigned to the female gender role were more apt to be shared when wives were high on either F or M, while for husbands, only the F measure was associated with shared responsibility for routine domestic tasks.

Examining family decision making behaviour, Qualls (1987) compared the long BSRI (Bem 1974), the Osmond and Martin Sex Role Attitude Scale (OMSRA; Osmond and Martin 1975), and the Scanzoni Sex Role Orientation Scale (SSRS; Scanzoni 1975) as measures of household sex-role orientation. As reviewed in Chapter 4, the BSRI is described as a measure of psychological gender, while the OMSRA and SSRS are more appropriately termed gender role attitude measures. The OMSRA scale taps attitudes toward family roles, social change, male and female stereotypes and extrafamilial roles, while the SSRS incorporates five underlying factors (traditional husband and wife role dimensions, institutional equality, a wife self-actualizing dimension and a problematic husband alteration dimension that considers the changes husbands undergo as a result of shifts in the female role). Concerning discriminant validity, Qualls found that these measures did capture different underlying constructs. Evaluating nomological validity with regard to household influence, he reported that the BSRI and SSRS measures were positively related to household influence, while the OMSRA scale was negatively correlated with household influence. Because the correlation of the SSRS with household influence was approximately 1.5 times that of the BSRI, Qualls chose to estimate his theoretical model using only the SSRS measure. Consistent with his earlier research (1982 1984), Qualls found that household role orientation was positively related to relative influence and conflict resolution, with "modern" couples tending to share decisions and resolve conflict through negotiation to a greater extent than did "traditional" couples.

Shopping Behaviour

Recent empirical evidence concerning the relative predictive importance of biological sex, gender identity and gender role attitudes concerns Christmas shopping behaviour (Fischer and Arnold 1994). Fischer and Arnold argued that consumer behaviour researchers have overlooked or misunderstood essential differences between the biologically based constructs of male and female and the social constructs of gender identity (masculinity and femininity as constellations of personality traits) and gender role attitudes, or differing perceptions regarding roles, rights and responsibilities of men and women. Consumer behaviour researchers, they noted, have treated biological sex as gender identity, as with Meyers-Levy's work on gender differences in information processing (Meyers-Levy 1988). Researchers also have confused gender identity with gender attitudes, as with Qualls' (1987) assertion that the Scanzoni scale outperformed the BSRI as a measure of sex-role orientation. Furthermore, gender identity has often been used to predict behaviours for which gender role attitudes would seem to play a more important role, such as Qualls' household decision making context.

In order to verify the differences between sex, gender identity, and gender role attitudes, Fischer and Arnold conducted personal interviews to collect data on these three constructs as well as dependent measures concerning Christmas shopping behaviour and perceptions, including time spent, psychological involvement, and enjoyment level. Involvement was measured with Zaichkowsky's scale (1985), gender identity was measured with the BSRI (Bem 1974), and gender role attitudes were measured with Scanzoni's Sex Role Orientation scale (Scanzoni 1975). Fischer and Arnold estimated three measurement models, with the best fit obtained when measures were expressed as a function of one sex construct (male or female), two identity constructs (masculinity and femininity), and three attitude constructs (wife self-actualization, husband role attitude and wife role attitude). They reported a chi-square statistic of 11.85 (10 *df*, $p = .295$) for this first model, with a goodness-of-fit-index of .99. All t-values were significant. A second model in which sex and identity were modeled as one gender construct as well as a third in which all measures were modeled as a function of one gender construct were rejected on the basis of significant chi-square statistics (both $p < .0005$).

Examining the hypothesized relationships among sex, gender identity, and gender role attitudes and the dependent measures, Fischer and Arnold described a model in which wife role attitude affected enjoyment and involvement, husband role attitude affected involvement and time spent shopping, and wife self-actualization affected time spent shopping. Sex had a direct effect only on enjoyment, while both feminine and masculine identity affected involvement and enjoyment. All gamma coefficients had significant t-values, meaning that less variance would have been accounted for had any of the gender measures been omitted. Fischer and Arnold reported a chi-square statistic of 26.93 (24 *df*, $p = .308$) and a goodness-of-fit index of .983.

CONCLUSION

It is clear that biological sex, gender identity and gender role attitudes are three distinct constructs, each of which may account for more or less variance depending on the substantive domain. Fischer and Arnold recommend that researchers pay close attention to the relevance of both gender identity and gender role attitudes in predicting behavioural and cognitive measures, arguing that criticisms directed toward the explanatory value of gender identity may stem from its application in contexts where gender role attitudes would be the more appropriate construct. Certainly the foregoing literature review suggests instances in which gender role attitudes may have been a more appropriate measure. For example, results concerning a priori product perceptions and preferences may be better explained by gender role attitude measures that tap subjects' definitions of appropriate behaviours for the sexes. This is not to say that perceiver gender identity is inconsequential as a mediator of response to advertising messages. Results obtained by Jaffe (1990 1991 1994) and Worth et al. (1992) demonstrate that attitudinal and purchase intention measures are affected by the degree of correspondence between the form of appeal and the individual's self-concept. Self and Other-orientation also may moderate memory for advertising messages, particularly in contexts that prompt perceivers to identify with the spokesperson or appeal.

CHAPTER 8

SELF-ORIENTATION, OTHER-ORIENTATION AND RESPONSE TO AGENTIC AND COMMUNAL ADVERTISING MESSAGES

INTRODUCTION

Recall that selectivity hypothesis research, both in terms of experimental design and interpretation, assumes that men are agentic and women are communal (Darley and Smith 1995; Meyers-Levy 1988; Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). As discussed in Chapter 3, Meyers-Levy reported that females were equally persuaded by agentic and communal appeals, whereas males who received the agentic appeal reported more favourable attitudes than those who were presented with the communal appeal (Meyers-Levy 1988). Between-sex comparisons revealed that men were more persuaded in the agentic condition than were females, while females were more persuaded by other-relevant information than were males.

However, in neither experiment was the message manipulation strongly self- or other-oriented. Although the cosmetic attributes of the mouthwash advertised in the first study were rated in pretests as significantly more other-oriented than the medicinal attributes, operationalizations of both agentic and communal appeals "fell below" the midpoint of a bipolar scale measuring self versus other orientation (Meyers-Levy 1988, p. 526). In a second study, self-related information consisted of a product description while other-related information was conveyed in the guise of prior subjects' evaluations of the soft-drink. In both cases, therefore, the female data could be explained as the result of less weight being placed on objective attributes (i.e., taste or medicinal attributes) than more subjective attributes that suggested social appraisal (i.e., others' opinions or cosmetic attributes). The desire for social approval is consistent with a communal orientation. However, these results do not demonstrate that advertisers must necessarily create appeals that explicitly evoke agentic or communal roles.

In addition to effects on judgment, subsequent research confirmed predictions that the agentic and communal orientations of males and females also had implications for memory, with the lower female threshold for message elaboration attributed to an orientation that embraced concern for the self as well as others (Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). As noted in Chapter 3, however, the Meyers-Levy and Maheswaran interpretation of results appeared to confuse information availability and accessibility. They believed that sex differences in information processing stemmed from cue accessibility rather than availability. However, their positive results for recognition and null results for recall indicate the reverse case. Furthermore, one would expect that if females do possess an enhanced propensity for elaboration relative to males, similar results would have been documented elsewhere in the marketing literature. However, subsequent tests of gender differences in information processing style and general motivation to process have produced null results (e.g., Peracchio and Tybout 1996). Nor are such differences documented in recent reviews of the extensive psychology literature concerning sex differences in cognition (e.g., Baker 1987; Caplan, Crawford, Hyde and Richardson 1997; Halpern 1992).

The confounding of biological sex with aspects of gender identity in selectivity hypothesis research is problematic in that it contributes to the maintenance and perpetuation of sex stereotypes. Furthermore, a theory that treats male and female sex roles as the inevitable by-product of biological difference provides little insight for the many marketing practitioners who are struggling with the strategic implications of shifts in gender role assignments (see Chapter 3: e.g., Bartos 1982; Leeming and Tripp 1994; Nelson 1994). Finally, the scientific value of the selectivity hypothesis also is limited if these apparent sex differences stem from either the agentic/communal distinction, irrespective of biological sex, or some other factor that truly is innate to the biological difference between males and females.

Accordingly, Chapter 8 introduces the self-concept orientation hypothesis, and proposes research that disentangles biological sex from Self- and Other-orientation by treating these aspects of gender identity as measurable individual differences in self-concept organization. In the context of an advertising experiment, research hypotheses derived from the psychology self-concept and the marketing self-concept and self-referencing literature are tested. Stimulus pre-testing, experimental procedures and analytical method and results are discussed below.

THEORETICAL BACKGROUND

Given that agentic and communal personality traits appear to be components of the self with which perceivers readily identify (Jose 1989), it is necessary to consult the psychology and marketing self-concept literature for theoretical insight concerning the manner in which agentic and communal advertising messages may be processed, elaborated upon, retrieved, and employed as input for judgments. Psychologists agree that the self is a vast and highly organized schema (Greenwald and Banaji 1989; Kihlstrom, Cantor, Albright, Chew, Klein and Niedenthal 1988). Because of the self-concept's greater complexity and larger number of potential linkage points compared with less well-developed structures, activation of the self-concept during information processing is believed to enhance elaboration and facilitate subsequent retrieval. Empirical research has found support for this proposal, in that self-relevant information generally is better recalled than non-self-relevant information (Bellezza 1984; Bower and Gilligan 1979; Brown, Keenan and Potts 1986; Kendzierski 1980; Klein and Loftus 1988; Kuiper and Rogers 1979; Rogers 1977; Rogers, Kuiper and Kirker 1977). These findings are consistent with a levels-of-processing framework (Craik and Lockhart 1972; Craik and Tulving 1975); an information processing task that encourages self-referencing elicits a higher degree of semantic involvement and deeper processing.

Self-concept also appears to influence preferences. According to Freedman, Carlsmith and Sears (1974), people tend to express a greater degree of liking for or attraction to those who are similar. In a parallel fashion, marketing researchers have found that consumers tend to prefer products and retail outlets that are aligned with their self-concepts (Belch 1978; Belk 1988; Onkvisit and Shaw 1987; Sentis and Markus 1980; Sirgy 1982). Brand preferences and purchase intentions also may be influenced positively by advertising appeals that are consistent with certain aspects of consumer self-concept (Belch 1978; Debevec and Iyer 1988; Hong and Zinkhan 1995; Landon 1974).

Despite the apparent advantages of appealing to the self-concept, this strategy does not always deliver positive results. As early as 1967, Krugman found an inverse relationship between ad recall and the number of thoughts pertaining to subjects' personal lives. Vallacher (1978) proposed that self-referencing had the potential to interfere with the encoding of new information, while Carver and Scheier (1981) argued that when cognitive resources became focused upon the self, attention to the environment decreased.

Recently, consumer behaviour researchers have focused on the manipulation of self-referencing in order to further investigate the impact of this executional strategy on variables of interest to advertisers. Mick (1992) clarified the nature of the relationship between self-referencing and recall by demonstrating that the elaboration elicited by self-referencing had a positive effect only up to an optimal level. Once this threshold was exceeded, self-relevant thoughts had a negative impact on recall. However, attitudes toward the ad and brand still were affected positively by increased levels of elaboration.

Burnkrant and Unnava (1989) found that manipulation of self-referencing produced results consistent with Elaboration Likelihood Model predictions for involvement (Petty, Cacioppo and Schumann 1983). When self-referencing was encouraged with second-person copy, subjects responded more favourably to strong than to weak arguments. When self-referencing was low (third-person copy) subjects did not react differently to strong and weak arguments. Burnkrant and Unnava (1995) later found that when a high self-referencing treatment was administered in conjunction with other variables that promoted elaboration (i.e., using questions and relevant photographs), the positive effect of self-referencing on evaluations was moderated or even reversed. These data were consistent with other information processing experiments in which elaboration exceeded optimal elaboration levels (Anand and Sternthal 1990; Cacioppo and Petty 1979). However, Burnkrant and Unnava (1995) did not obtain parallel results for recall data collected in a study that manipulated self-referencing and grammatical style; subjects in both high self-referencing conditions (i.e., high self-referencing crossed with questions and statements) recalled more information than those in low self-referencing conditions (i.e., low self-referencing crossed with questions and statements).

Meyers-Levy and Peracchio (1996) extended the self-referencing literature by demonstrating that in certain situations, product evaluations and recall data were an inverse U-shaped function of low, moderate and high levels of self-referencing. If proposed outcomes were negative, subjects evaluated the products more favourably when self-referencing was moderate (second person copy and ad photograph from an observer perspective) than when self-referencing was low (third person copy and observer photograph) or high (second person copy and photograph from the perspective of an active participant). A similar pattern was obtained for recall data. However, these effects were not significant when outcomes were positive. Meyers-Levy and Peracchio also found that subject decision-making style interacted with copy wording and photograph perspective. Regardless of outcome valence, subjects with a rational decision-making style evaluated products more favourably when self-referencing was moderate than when it was low or high. This pattern did not occur among those with intuitive decision-making styles, nor did recall data exhibit a similar three-way interaction. Meyers-Levy and Peracchio concluded that as the degree of elaboration evoked by self-referencing rose, consumers were more likely to engage in counterargument and/or idiosyncratic thoughts. No sex differences were hypothesized or reported.

Baumgartner, Sujan and Bettman (1992) found that evocation of autobiographical memories also could interfere with message processing. Rather than a general or abstract notion of self, the autobiographical memory is a special case of self-referencing that is characterized by a strong affective component. Although Baumgartner, Sujan and

Bettman found that the affect associated with positive biographical memories transferred to ad evaluations, this was not always the case where brand evaluations were concerned. Furthermore, reduced message analysis and subsequent recall of product information also were observed. Sujan, Bettmann and Baumgartner (1993) subsequently demonstrated that encouragement of autobiographical memories did not appear to enhance involvement with the message or prompt deeper analysis. Although positive autobiographical affect was transferred to the brand when a strong link between the brand and the subject's experience was created, brand evaluations did not vary with argument quality.

The potential pitfalls of self-referencing as an executional strategy are further complicated if the perceived self-relevance of information differs for males and females. As discussed in Chapter 5, Markus and Oyserman (1989) propose that the self-definitions of males and females differ according to the extent to which relations with others are incorporated within the individual's self-concept. The male "separateness" schemata is characterized by autonomy and independence, with sharp boundaries between knowledge structures related to the self and those concerning others. In contrast, the female "connectedness" schemata is described as interdependent and interpersonal, with knowledge relevant to important others included within the self-concept. While women place emphasis on close dyadic relationships, men form connections with others in a larger social sphere (Baumeister and Sommer 1997; Cross and Madson 1997; Fletcher and Fitness 1996; Gabriel and Gardner 1999).

According to Markus and Oyserman, these differences in content and structure also imply differences in function. For example, because others are partially represented within the "connectedness" self-concept, when "those aspects of the self that articulate its connectedness are active" (p. 111) certain of the representations to which it is connected also are active. In a parallel manner, when schemata for important others are activated, so too is the self. This pattern of activation does not occur among individuals with "separateness" schemata.

Markus and Oyserman as well as Cross and Madson (1997) further propose that certain sex differences in cognition may stem from the manner in which male and female self-concepts are organized. Contrary to marketing researchers such as Meyers-Levy and her colleagues, they do not expect that sex differences in basic capacity, encoding, or retrieval processes are likely to emerge. However, they do believe that the "connectedness" schemata of women may allow more complex or elaborate encoding of interpersonal information, and therefore anticipate that women should demonstrate better memory about others than do men. Although very little empirical evidence concerning sex differences in memory exists, one meta-analysis of facial identification (Shapiro and Penrod 1986) found that females had superior recognition memory for faces, especially those of women. More recently, Josephs, Markus, and Tafarodi (1992) found that men better recalled information relevant to the self, while women had better memory for information about others.

THE SELF-CONCEPT ORIENTATION HYPOTHESIS

Rather than predicting information processing outcomes from biological sex, the self-concept orientation hypothesis proposes that a consumer's response to agentic and communal messages depends upon the extent to which the individual's self-concept is Self- and Other-oriented. More specifically, it is argued that self-referencing or consumer identification with the message appeal (either agentic or communal) is the mechanism by which the self-concept is activated and subsequently affects advertising outcomes. Therefore, theory testing necessarily involves evaluation of those two-way and three-way interactions that consider both message orientation and individual differences in Self- and/or Other-orientation. According to the theory, any main effects for message orientation, subject Self-orientation and subject Other-orientation will be qualified or superseded by higher-order interactions.

Finally, no predictions are made for sex of subject. Results reported in the marketing literature require that sex be evaluated for its predictive power. However, neither the social psychology nor marketing literature suggests that gender differences in response to agentic versus communal messages depend on anything other than hypothesized differences in self-concept. Both the existing marketing data and the Markus et al. theorizing could be accounted for by self-concept orientation if women outscore men on a measure of Other-orientation, but do not differ on Self-orientation. Preliminary results for measurement of these constructs indicate that this indeed is the case (see Chapter 5).

Experimental Hypotheses

The following set of experimental hypotheses assumes advertising outcomes that are compatible with Meyers-Levy's first examination of the effects of agentic and communal message manipulation (1988). Simply put, results for subjects who are highly Self-oriented are expected to resemble those reported for males, while subjects who are highly Other-oriented should form judgments that are analogous to those of females in the

1988 experiments. Note that Meyers-Levy's original examination of the effects of agentic and communal information on advertising response did not extend to consumer memory (1988). However, this test of the self-concept orientation hypothesis predicts similar response patterns for judgment and memory variables.

Message Orientation by Subject Other-orientation: Because the self-concepts of high Other-oriented (High-O) individuals are more closely aligned with a communal appeal, they experience a higher degree of identification with a communal advertisement and engage in self-referencing to a greater extent than low Other-oriented (Low-O) subjects. High-O individuals also evaluate a communal appeal more favourably than Low-O subjects. Because the benefits described in a communal appeal are more heavily weighted by High-O subjects than by Low-O individuals, attitudes toward the brand and behavioural intentions also are higher among High-O scorers than among Low-O subjects.

The anticipated higher degree of identification among High-O individuals also prompts greater message elaboration. Furthermore, the High-O scorer is proposed to have a self-concept that is more complex in its incorporation of other-related information than that of the Low-O individual and therefore the High-O individual is able to assimilate a communal appeal to a larger number of nodes. Compared with Low-O individuals, High-O subjects demonstrate superior recognition for and recall of the communal appeal.

$H1_a$: High-O subjects identify with a communal appeal to a greater extent than do Low-O subjects.

$H1_b$: High-O individuals evaluate a communal appeal more favourably than do Low-O subjects.

$H1_c$: When presented with a communal appeal, attitudes toward the brand are higher among High-O subjects than among Low-O individuals.

$H1_d$: When presented with a communal appeal, behavioural intentions (i.e., interest in further information and purchase) among High-O subjects are higher than among Low-O individuals.

$H1_e$: Compared with Low-O individuals, High-O subjects demonstrate superior recall for the communal appeal.

$H1_f$: Compared with Low-O subjects, High-O subjects demonstrate better recognition memory for a communal appeal.

Message Orientation by Subject Self-orientation: A pattern of results parallel to those above is anticipated for individuals of high and low Self-orientation (High-S and Low-S). That is, High-S subjects are more persuaded by and have better memory for agentic appeals than do Low-S subjects.

$H2_a$: High-S subjects identify with an agentic appeal to a greater extent than do Low-S subjects.

$H2_b$: High-S individuals evaluate an agentic appeal more favourably than do Low-S subjects.

$H2_c$: When presented with an agentic appeal, attitudes toward the brand are more favourable among High-S subjects than among Low-S individuals.

$H2_d$: When presented with an agentic appeal, behavioural intentions among High-S subjects are higher than among Low-S individuals.

H2$_{e}$: Compared with Low-S individuals, High-S subjects demonstrate superior recall for an agentic appeal.

H2$_{f}$: Compared with Low-S subjects, High-S subjects demonstrate better recognition memory for an agentic appeal.

Message Orientation by Subject Other-orientation by Subject Self-orientation: Subject Self- and Other-orientation interact with message orientation such that subjects who are High-S and Low-O identify to a greater degree with an agentic message than with a communal message. Similarly, the self-concepts of subjects who are High-O and Low-S are more closely aligned with a communal message than with an agentic message. Subjects who are High-S/High-O do not react differently to an agentic versus a communal message. Nor do Low-S/Low-O subjects exhibit differential response.

H3$_{a\text{-}i}$: High-S/Low-O subjects identify with an agentic appeal to a greater extent than they do with a communal appeal.

H3$_{a\text{-}ii}$: High-O/Low-S subjects identify with a communal appeal to a greater extent than they do with an agentic appeal.

H3$_{a\text{-}iii}$: High-S/High-O subjects do not differ in their degree of identification with an agentic vs. a communal appeal.

H3$_{a\text{-}iv}$: Low-S/Low-O subjects do not differ in their degree of identification with an agentic vs. a communal appeal.

H3$_{b\text{-}i}$: High-S/Low-O individuals evaluate an agentic appeal more favourably than a communal appeal.

H3$_{b\text{-}ii}$: High-O/Low-S individuals evaluate a communal message more favourably than an agentic appeal.

$H3_{b\text{-}iii}$: High-S/High-O subjects do not rate agentic and communal appeals differently.

$H3_{b\text{-}iv}$: Low-S/Low-O subjects do not rate agentic and communal appeals differently.

$H3_{c\text{-}i}$: Attitudes toward the brand among High-S/Low-O subjects are more favourable when the product is advertised in an agentic message than in a communal message.

$H3_{c\text{-}ii}$: Attitudes toward the brand among High-O/Low-S subjects are more favourable when the product is advertised in a communal message than in an agentic message.

$H3_{c\text{-}iii}$: Attitudes toward the brand among High-S/High-O subjects do not differ with respect to message orientation.

$H3_{c\text{-}iv}$: Attitudes toward the brand among Low-S/Low-O subjects do not differ with respect to message orientation.

$H3_{d\text{-}i}$: Behavioural intentions among High-S/Low-O subjects are higher when the message is agentic than when it is communal.

$H3_{d\text{-}ii}$: Behavioural intentions among High-O/Low-S subjects are higher when the message is communal than when it is agentic.

$H3_{d\text{-}iii}$: Behavioural intentions among High-S/High-O subjects do not differ with respect to message orientation.

$\mathrm{H3}_{\text{d-iv}}$: Behavioural intentions among Low-S/Low-O subjects do not differ with respect to message orientation.

$\mathrm{H3}_{\text{e-i}}$: High-S/Low-O subjects demonstrate better recall for the agentic appeal than the communal appeal.

$\mathrm{H3}_{\text{e-ii}}$: High-O/Low-S subjects demonstrate better recall for the communal appeal than the agentic appeal.

$\mathrm{H3}_{\text{e-iii}}$: High-S/High-O individuals do not exhibit differential recall for agentic vs. communal messages.

$\mathrm{H3}_{\text{e-iv}}$: Low-S/Low-O subjects do not exhibit differential recall for agentic vs. communal messages.

$\mathrm{H3}_{\text{f-i}}$: High-S/Low-O subjects demonstrate better recognition memory for the agentic appeal than the communal appeal.

$\mathrm{H3}_{\text{f-ii}}$: High-O/Low-S subjects demonstrate better recognition memory for the communal appeal than the agentic appeal.

$\mathrm{H3}_{\text{f-iii}}$: High-S/High-O individuals do not exhibit differential recognition memory for agentic vs. communal messages.

$\mathrm{H3}_{\text{f-iv}}$: Low-S/Low-O subjects do not exhibit differential recognition memory for agentic vs. communal messages.

Method

Subjects. The experiment was administered to 812 student subjects in several mass testing sections conducted with the university psychology student subject pool. Subjects were randomly assigned to experimental conditions. The responses of 7 subjects were discarded immediately because of failure to follow instructions during the experimental session.

Design. The experimental design consisted of one two-level manipulated factor (message orientation) and two continuous predictors (subject Self-orientation and subject Other-orientation).

Stimuli. Running shoes were selected as a gender-neutral category that appeared suitable for message orientation manipulation. Subjects were expected to be somewhat interested in running shoes, but their motivation to process an advertisement for this product category was not believed to be particularly strong. Nor were they expected to have detailed knowledge about running shoe features. These criteria were established to avoid memory ceiling effects and to facilitate results interpretation as the outcome of experimental manipulation rather than prior experience. Pre-tests were conducted with 55 undergraduate business students to ensure that the product category met these criteria, that males and females did not differ in their level of product knowledge or interest, and that brand familiarity was low (Appendix 25).

Two colour advertisements for running shoes were created using the New Balance brand and execution style (Figures 10 and 11, Appendix 26). Each advertisement contained a photograph of the New Balance running shoe featured below a photograph of either an individual or a family running on a river valley trail. The message manipulation (agentic or communal) appeared in larger font, while smaller font was used for information concerning attributes and benefits. No attempt was made to encourage autobiographical memory. Both ads featured the tag line "Achieve New Balance". To reduce the potential for hypothesis-guessing, four ads for other sports-related products (the Breathe Right nasal strip, Irish Spring Sport soap, the Timex Triathlon watch and Power Bar) were selected as fillers (Figures 12-15, Appendix 27). Finally, pre-tests were conducted to verify that the New Balance message manipulations were in fact perceived as agentic and communal, and that males and females did not differ in their attitude toward or identification with the ad (Appendix 28).

Procedure. Subjects were told that they were participating in an advertising study. The first of the four experimental booklets contained the five colour advertisements with the target New Balance ad in the third position. Prompted to turn pages at 45-second intervals, subjects completed the attitude toward the ad measures in the second booklet as a relatively low-involvement incidental learning task (Mackenzie and Spreng 1992). A one-minute distracter task followed (Appendix 29). To further reduce the likelihood of hypothesis-guessing and to provide an experimental control, counterbalanced three-minute free recall tasks were administered for both the target New Balance ad and the fourth-position Timex Triathlon watch ad. The third booklet contained two counterbalanced 12-item recognition tasks for the New Balance and Timex ads (Appendix 30). The final booklet included black-and-white copies of these two ads for subjects' reference, the remainder of the dependent measures (also counterbalanced), the individual difference and demographic measures, and the manipulation check. Subjects completed the last two booklets at their own pace and received written debriefings when they were finished.

Dependent Measures: Judgments

Attitude toward the ad and identification with the ad were collected with the 9-point scales that were used in pre-testing. Attitude toward the brand data were collected in response to the question, "What is your impression of New Balance running shoes?" with three 9-point scales anchored by "not at all desirable" and "very desirable"; "quality is not at all good" and "quality is very good"; and "features are not at all worthwhile" and "features are very worthwhile". Identification with the ad measures also were collected with three 9-point scales. The first, which was anchored by "not at all interested" and "very interested", asked subjects how interested they would be in finding out more about New Balance running shoes. The second and third scales asked subjects how likely they were to visit the New Balance website and if they were buying running shoes, how likely they would be to choose the New Balance brand (endpoints of "not at all likely" and "very likely").

Dependent Measures: Memory

Unaided Recall. Subjects' recall for brand name, model number, individual attributes, general ad theme, visual element and tag line were coded according to the categories of "not recalled", "recalled generally" and "recalled perfectly" (see Appendix 31 for coding scheme).

Recognition. Hit (H) and false alarm (FA) ratios and the resulting discrimination index (d_L) were calculated for each individual according to the following formulae (Snodgrass and Corwin 1988):

$$H = (\text{\# of true items identified} + .5)/(\text{total \# of true items} + 1) \tag{1}$$

$$FA = (\text{\# of false identified as present} + .5)/(\text{total \# of false items} + 1) \tag{2}$$

$$d_L = \ln\{[H(1\text{-}FA)]/[(1\text{-}H)FA]\} \tag{3}$$

This signal detection model estimates discrimination independently from respondent bias. Furthermore, this variable is amenable to General Linear Model methods of analysis. Finally, regardless of the numbers of true and false items, d_L has a neutral value of zero with positive values indicating discrimination that is better than neutral.

Covariates and Manipulation Checks

The factors of primary interest were the Self-orientation and Other-orientation scale scores, as described in Chapter 5. In order to rule out alternative explanations for differences in dependent variables, additional individual difference data including Involvement (Appendix 32, Zaichowsky 1985), Need for Cognition (Appendix 33, Cacioppo and Petty 1982), Rational, Dependent and Intuitive Decision-making Styles (Appendix 15, Buck and Daniels 1985), and Self-Monitoring (Appendix 34, Snyder and Gangestad 1986) were collected. Subjects also indicated their level of interest in running as a form of exercise, their level of knowledge about running shoes, their familiarity with the New Balance brand prior to the experiment, whether they currently owned running shoes and whether they intended to purchase a new pair of running shoes within six months. In addition, demographic data including sex, age, marital status, numbers of children (own), income, university faculty and major program were collected. Finally, the last two items checked the effectiveness of the message manipulations.

Data Inspection

Subject Elimination. After the data were coded and entered, the responses of another 5 subjects were eliminated because they did not appear to take the task seriously (e.g., circled "1" or "9" for all measures). Of the remaining 800 subjects, 60 who did not provide complete data for the dependent measures, Self-orientation and Other-orientation also were eliminated. Because results could not be interpreted for those who were familiar with the brand before the experiment, the familiarity distribution was inspected (Appendix 35). Subjects who scored higher than 3 and those who did not provide a response for this measure were eliminated, leaving 540 responses. Furthermore, because knowledge about running shoes, involvement in the product category and interest in running as a form of exercise clearly were related to respondents' motivation to process the ads, those with incomplete data on these measures (27 subjects) also were dropped from further analysis. Another 7 were excluded on the basis of not having completed the sex of subject or manipulation check measures. Multivariate analysis of variance with Rational, Intuitive and Dependent Decision-making Styles, Self-Monitoring, Need for Cognition, Self, and Other found no difference between subjects that were retained and those that were eliminated ($p = .062$).

Finally, the manipulation check data were examined to determine the extent to which the agentic message was perceived as oriented toward the needs of the individual and the extent to which the communal message was perceived as both individual-oriented as well as oriented toward relationships with others. The "individual" and "relationship" means for the agentic ad were 6.31 and 4.34 respectively, while the respective means for the communal ad were 4.49 and 5.52, indicating that the manipulation was successful in an aggregate sense (Appendix 36).

Covariates. Covariates were examined for evidence of multicollinearity. Correlations were found among knowledge, interest and involvement that ranged from .48 to .57 (Appendix 37). Principal components analysis revealed that these formed one factor that accounted for 68% of the variance. Moderate correlations ranging from .30 to .49 also appeared among age, marital status, numbers of children and income. These four variables also formed a single factor that accounted for 52% of the variance. The factor scores (named motivation/ability and life cycle stage) were used for subsequent analysis. Frequencies for sex of subject, running shoe ownership, running shoe buying intentions and brand familiarity are found in Appendix 38, as are descriptive statistics for Self, Other, Self-Monitoring, Need for Cognition, DMS-Rational, DMS-Dependent, DMS-Intuitive, Motivation/Ability and Life Cycle. Histograms for individual difference continuous variables are found in Appendix 39.

Dependent Measures: Judgments. Principal components analysis verified that each of the three-item sets of judgment variables for New Balance and Timex formed single components that accounted for an adequate proportion of the variance. Therefore, item scores for these measures were averaged to create unidimensional and satisfactorily reliable scales (see Appendix 40). With the exception of New Balance intentions, all composite variables were normally distributed. A natural log transformation of the intentions variable improved the shape of this distribution (see Appendices 41 and 42 for histograms of New Balance and Timex judgment dependent measures).

Dependent Measures: Memory. New Balance recall results demonstrated that subjects recalled very little of the information contained in the ads, with the exception of the general ad themes and the visual elements. Recall frequencies tabulated according to the three-level coding scheme are found in Appendix 43. These data were recoded a binary format with "recalled generally" frequencies added to those for "recalled perfectly" and the visual element element also was recoded as a single "recalled" or "not recalled" variable. Finally, a composite variable was created from the addition of recall for the brand name, shoe attributes, the visual element and tag line. All memory measures were normally distributed (see Appendices 44 and 45 for New Balance and Timex memory dependent measures).

Analytical Format. Before proceeding with regression analysis with parameters for the continuous Self- and Other-orientation scale scores, the four interaction terms and additional covariates for each of the six continuous dependent measures, the suitability of MANOVA analyses with Self and Other as three-level factors was considered. Information and statistical power is lost by reducing the nine-point scale scores to three categories, but this loss is offset to some extent by the preservation of the correlational information between the dependent measures. Furthermore, a lesser number of multivariate analyses (i.e., two MANOVAS versus six regressions) in conjunction with joint multivariate confidence intervals have the advantage of controlling Type 1 error while still allowing non-linear effects to emerge. In addition to facilitating the discussion of groups differences as framed in the experimental hypotheses, the MANOVA format also specifies a well-documented and rigorous procedure for planned contrasts and the subsequent interpretation of higher-order interactions. In the event that marginal effects do emerge, regression analyses may be conducted with continuous scale scores to determine whether lack of statistical power contributed to non-significant results (see

Stayman and Kardes 1992 for further discussion of regression versus analysis of variance).

To investigate the suitability of multivariate analyses, the six continuous New Balance measures were subjected to principal components analysis with oblique rotation. The attitudinal measures all loaded onto the first factor, which accounted for 49% of the variance, while discrimination and recall formed a second factor that explained 21% of the variance. The correlation between the two components was - .113. Consequently, two separate MANOVA analyses for the New Balance attitudinal and memory dependent measures were deemed appropriate.

Subjects were therefore categorized as having low, moderate and high levels of Self- and Other-orientation. To ensure that cells were adequately populated and not unduly imbalanced, subjects who fell in the centres of the scale distributions (approximately 40% for each scale) were classified as Moderate, with the remaining subjects at the upper and lower ends designated as High and Low. A correlation matrix revealed no evidence of problematic multicollinearity among Self-orientation, Other-orientation and the message manipulation (see Appendix 46 for Self and Other Levels, the resulting factorial design and correlations among factors). The large sample size notwithstanding, it must be acknowledged that classification on the basis of sample data rather than population norms is somewhat arbitrary. Therefore, the experimental Self- and Other-orientation distributions were compared with those of the two large samples (both n = 485) who completed the Self- and Other-orientation items during the scale development process. The Self-orientation median for the experimental group was 7.4 while the earlier exploratory and confirmatory samples had respective medians of 7.6 and 7.4. Similar medians also were found for Other-orientation (7.3 experimental, 7.4

exploratory and 7.4 confirmatory). When the same cut-off levels are used to classify subjects in the measurement samples, the exploratory sample frequencies are 24.1% Low Self, 43.5 Moderate Self and 32.4% High Self. Other-Orientation frequencies are 28.2 Low, 39% Moderate and 32.8% High Other. For the confirmatory sample, the resulting frequencies are 26.6% Low, 43.1% Moderate, and 30.3% High Self; and 28.9% Low, 34.6% Moderate, and 36.5% High Other. Because the trichotomies are reasonably consistent across the three samples, the "meaning" or "definition" of Low, Moderate and High Self appears to vary little from one undergraduate student sample to the next.

Timex Control: Recall that the Timex dependent measures were collected to reduce the likelihood of hypothesis guessing and to provide an experimental control. Similar to the results found for the New Balance dependent measures, principal components analysis with the Timex dependent measures found two factors that accounted respectively for 56% and 19% of the variance. Therefore, MANOVA analysis was conducted with the attitudinal measures, while the single memory dependent measure (discrimination) was investigated with univariate analysis of variance. The MANOVA analysis verified that subjects in the two experimental conditions (agentic and communal) did not differ in their response to the Timex ad ($p = .387$ for Wilk's lambda). Nor did discrimination differ by condition ($p = .487$). Consequently, any differences that emerge in the New Balance dependent measures can be interpreted as the result of the experimental manipulation in conjunction with Self- and Other-orientation.

RESULTS: JUDGMENTS

Self-Concept Orientation Hypothesis

A correlation matrix of covariates and dependent measures was examined to determine which of the individual difference variables should be included in a MANCOVA analysis (see Appendix 47). Because Rational Decision-making Style and Motivation/Ability had weak correlations with the dependent measures (ranging from .145 to .203 for Decision-making Style and from .236 to .326 for Motivation/Ability), these two variables were included as covariates in the initial analysis.

Multivariate analysis of covariance with Self, Other and Message factors revealed that both Rational Decision-making Style and Motivation/Ability were significant covariates with respective *p*-values of .002 and .000 and effect sizes of .036 and .103 (Table 23, Appendix 48). This analysis was followed by a MANOVA that excluded the two covariates. Because no important differences were found in the significance of experimental effects when these variables were absent, the MANOVA analysis was retained for purposes of further analysis (Table 24, Appendix 48). In addition to main effects for Message, Self and Other, a three-way interaction emerged. The standardized residuals histograms, plots of standardized residuals vs. predicted values and plots of spread vs. level all indicated that there were no violations of the MANOVA assumptions (see Appendices 49, 40 and 51). Cell means and standard deviations for ad attitude, brand attitude, ad identification and intentions (log) are found in Appendix 52. Graphs of dependent measures according to Other by Self at Agentic and Communal Message Levels (Figures 51-58), Message by Other across levels of Self (Figures 59-70), and Message by Self across levels of Other (Figures 71-82) are found in Appendices 53, 54 and 55.

Planned Contrasts

The experimental hypotheses were tested with a series of planned contrasts. First, the Subject by Other judgment predictions were examined with a multivariate analysis of Other within Communal Message (Table 29, Appendix 56). Because this analysis was significant at $p = .009$, Bonferroni joint multivariate confidence intervals controlling alpha at .05 were computed for the differences in judgments between Low and High Other at each level of Self (Table 30, Appendix 56). The Ad Attitude confidence interval for Low vs. High Other at Moderate Self approached significance but all other confidence intervals contained zero. Despite the omnibus confirmation of the H1 subset of hypotheses, no statements can be made concerning the confirmation of individual predictions. Inspection of the Message by Other graphs (Appendix 54) suggests that the behaviour of Other at Low and Moderate Self is consistent with predictions. However, there is a Message crossover between Low and Moderate Other at High Self.

Next, the Subject by Self hypotheses were tested with a multivariate analysis of Self within Agentic Message (Table 29, Appendix 56). Because the multivariate tests were non-significant, $H2_a$ through $H2_d$ were not supported.

Finally, the Subject Orientation by Message predictions were tested with contrasts for Message at Low Self/Low Other, High Self/Low Other, Low Self/High Other and High Self/High Other (Table 31, Appendix 56). As predicted, the responses of Low Self/Low Other subjects did not differ according to the message condition ($p = .147$). Therefore, $H3_{a\text{-}iv}$, $H3_{b\text{-}iv}$, $H3_{c\text{-}iv}$ and $H3_{d\text{-}iv}$ are confirmed (see also Figures 59, 62, 65 and 68 in Appendix 54, as well as Figures 71, 74, 77 and 80 in Appendix 55). Contrary to predictions, however, a significant difference in response to the agentic and communal ads was found among High Self/High Other subjects (p = .005). Bonferroni joint multivariate confidence intervals revealed that Ad Identification was responsible for this difference, with subjects expressing higher levels of identification with the agentic ad (Table 32, Appendix 56). Consequently, support was found for the $H3_{iii}$ subset of hypotheses with the exception of $H3_{a\text{-}iii}$ (see Figure 67 in Appendix 54 and Figure 79 in Appendix 55). The contrast for Message at Low Self/High Other also was significant (p = .015) and confidence intervals revealed significant differences for Ad Identification and Intentions. However, these differences were in the opposite direction of predictions; subjects identified more with the agentic than the communal ad and also expressed higher intentions (see Table 33, Appendix 56; Figures 65 and 68 in Appendix 54; Figures 77 and 80 in Appendix 55). Finally, because the contrast for High Self/Low Other was non-significant (p = .143), no support was found for $H3_{a\text{-}i}$, $H3_{b\text{-}i}$, $H3_{c\text{-}i}$ and $H3_{d\text{-}i}$.

Interaction Interpretation

For interpretation of a three-way multivariate interaction, Timm (1975) recommends examination of the interaction $E^{-1}H$ matrix discriminant function to determine which of the variables under consideration is primarily responsible for the overall significance. Because the first root of this matrix explained 48% of the variance and Barlett's test indicated no further discrimination, only the first root is considered for purposes of interpretation. The correlations between the dependent and canonical variables indicate that intentions (log) plays the primary role (-.585) followed by ad identification (-.515). Ad attitude and brand attitude are of far less importance at .108 and -.036 respectively.

Hays' conceptualization of a three-way interaction also provides a useful framework for interpretation (1994, p. 515). "When there are three factors under consideration, the notion of a simple main effect can be generalized to a *simple interaction effect*". That is, "the simple interaction of two factors varies with changes in a third factor, and this, in essence, is the meaning of a second-order interaction." Accordingly, the data were subjected to a series of simple two-way analyses.

Although the graphical evidence suggests simple two-way interactions between Self and Other within the two messages, neither of the multivariate simple two-ways for Self by Other within Message was significant. Next, the profiles for the Message by Other interaction across the levels of Self were inspected (graphs in Appendix 54). These indicated an interaction between Message and Other at High Self, which was verified by the presence of a significant simple two-way interaction of Message by Other within High Self (see Table 34, Appendix 57). The most important variable in the interaction was Ad Identification (correlation of -.866 between the canonical and dependent variables), followed by Brand Attitude (-.679), Intentions (-.627) and Ad Attitude (-.229). To further investigate the contribution of the individual variables to the overall significance, Bonferroni joint multivariate confidence intervals were computed for the comparisons of Low vs. Moderate Other and Moderate vs. High Other across Message. Significant differences in response to the agentic and communal ads were found for all four variables between Low and Moderate levels of Other (see Table 35, Appendix 57).

The Message by Self profiles also vary across levels of Other, with a significant Message by Self cross-over at Low Other (see Table 36, Appendix 57, and graphs in Appendix 55). The correlations of the canonical variables with the dependent variables indicate that Brand Attitude plays the most important role in the multivariate interaction (-.874), followed by Ad Identification (-.634), Ad Attitude (-.468), and Intentions (-.362). A significant joint multivariate confidence interval was found for the Brand Attitude Moderate vs. High Self comparison (Table 37, Appendix 57).

Simple Main Effects

Where there are no two-way interactions, the main effects for Self, Other and Message can be interpreted directly. That is, higher levels of ad attitude, brand attitude, ad identification and intentions are associated with the agentic ad. Higher levels of Other are associated with more favourable judgments, while the reverse is true for higher levels of Self. Where there are interactions, however, the simple main effects must be examined. As a follow-up to the Message by Other interaction within High Self, simple main effects analyses were conducted for Message within Low and Moderate Other at High Self. (Note that the Message within High Other within High Self was examined as a planned contrast.) Neither of these analyses produced significant results.

Next, analyses were conducted for Other within the two levels of Message at High Self. No effect was found for Other at High Self within the communal message, but a significant multivariate simple main effect was found in the agentic message condition (Table 38, Appendix 58). Because the graphical evidence suggested very little difference between Moderate and High Other, confidence intervals were first computed for the pairwise comparisons of Low vs. Moderate Other (see Table 39, Appendix 58). Ad Attitude, Brand Attitude and Intentions (log) were more favourable at Moderate and High Other than at Low Other. Higher levels of Ad Identification also were found at Moderate

Other than Low Other. Although the Ad Identification confidence interval for the difference between Low and Moderate Other contained zero, this effect was close to significance (1.651 ± 1.656) and the difference between Low and High Other was significant (-.509 ± .477).

To explore the Message by Self interaction within Low Other, simple main effects analyses were conducted for Message within the three levels of Self at Low Other and for Self within the two levels of Message at Low Other. None of these analyses revealed significant effects.

Selectivity Hypothesis

The predictions of the selectivity hypothesis also were considered (see Tables 40 through 42 in Appendix 59). MANCOVA analysis with Message and Sex factors revealed a significant effect for message only ($p < .001$). Both covariates were significant ($p < .001$). However, when the covariates were excluded, a Sex effect emerged ($p = .027$), suggesting that previous significant findings for sex (i.e., Meyers-Levy 1988) may have been due to unmeasured covariates rather than sex per se. Neither was Meyers-Levy's previous Message by Sex interaction effect replicated.

Follow-up Analyses and Discussion

To better understand the counter-intuitive results obtained with the Low Self/High Other subjects, additional analysis was undertaken with the manipulation check "individual" and "relationship" scores. Even though sex was not a significant factor in the selectivity hypothesis MANOVA, the possibility remained that sex could account for differences in subjects' perceptions of the message manipulations. Because there are far fewer males than females in the Low Self/High Other cell (6 vs. 39) and an over-representation of males in the High Self/Low Other cell (15 males vs. 24 females), sex differences in message perceptions might have had an indirect effect on attitudes, identification and intentions. Compared with males, for example, women might be inclined to regard the communal ad as more relationship-oriented. To explore this possibility, regressions for the "individual" and "relationship" scores for the ads were conducted with message and sex as factors (Tables 43 through 46, Appendix 60). In both cases, the parameter for Message was significant, indicating that both males and females perceived the communal ad as more relationship-oriented and the agentic ad as more individual-oriented. However, because the parameters for Sex and the Sex by Message interaction were non-significant, a sex of subject interpretation was rejected as a possible explanation for the more positive reaction to the agentic ad among Low Self/High Other subjects.

Next, stepwise regressions with the manipulation check scores were conducted with parameters for Self, Other, Message and their interactions (Tables 47 through 50, Appendix 60). For the relationship orientation score, only Message and Other were retained as significant parameters. The communal ad was perceived as being more relationship-oriented than the agentic ad. In addition, the higher the Other score, the more likely a subject was to regard an ad (whether agentic or communal) as relationship-oriented (see graphs in Appendix 61). Although High Other subjects saw both the agentic and communal ads as being more relationship oriented than Moderate or Low Other subjects, this does not account for their more favourable intentions or higher level of identification with the agentic ad. To gain further insight, the recall for these subjects in both message conditions was examined more closely. It appeared that the agentic ad appealed to the Low Self/High Other subjects because it suggested peace, escape and freedom from relationship demands (selected protocols appear in Appendix 62). In addition, these subjects seemed to react adversely to the communal message's relationship implications, with the overall tone of their comments suggesting that the family-oriented appeal was perceived as artificial and manipulative. Furthermore, one subject directly questioned the suitability of the communal ad for her young and single demographic status. Even though this group of subjects is high on Other, the significant others in their lives at present do not for the most part include spouses and children. The demographic issue also may explain why High Self/High Other subjects identified more with the agentic than the communal ad.

The significance of the Self by Message parameter for the individual orientation regression also sheds light on the High Self/Low Other group's apparent indifference between the two ads (Figure 85 in Appendix 61). While perceptions of the agentic ad varied little across the levels of Self, perceptions of the communal ad varied such that the higher the level of Self, the greater the tendency to perceive the ad as oriented toward the needs of the individual. Because there was no Self by Message interaction for the relationship-orientation measure, it appears that High Self/Low Other subjects understood the relationship implications of the ad. However, they seemed to have discounted relational concerns when forming judgments and instead considered the achievement implications of the professional occupations and self-improvement message. Such an interpretation is consistent with the non-significant Message planned contrast.

Finally, the correlations among Self-orientation, Other-orientation and decision-making styles were inspected (Appendix 63). Other-orientation is more strongly correlated with Rational Decision-making Style than is Self-orientation and while Other is uncorrelated with Intuitive Decision-making Style, Self is weakly correlated. Although none of these correlations is strong, they do support the view that High Self subjects are more likely to focus on self-related information as a heuristic strategy. The moderate negative correlation with Dependent Decision-making Style is consistent with the main effect for Self in that it suggests that High Self subjects are less easily persuaded. Finally, the absence of a correlation between Other and Dependent Decision-making Style indicates that the main effect for Other does not occur because these subjects are more easily influenced but reflects their tendency toward higher levels of empathy and attendant ability to identify with either message (see also tables and graphs of Decision-making Styles by levels of Self and Other in Appendices 64 and 65).

RESULTS: MEMORY

Self-Concept Orientation Hypothesis

Because no correlations between the covariates and the memory measures were greater than .15 (see Appendix 47), MANOVA analysis with the Self-orientation, Other-orientation and Message factors proceeded without the inclusion of covariates (see Appendix 66). This analysis revealed significant main effects for Self and Message as well as a three-way interaction in which recall played the primary role (correlation of .852 with the canonical variables), with discrimination of somewhat lesser importance (correlation of .741). Standardized residuals histograms, plots of standardized residuals vs. predicted values and plots of spread vs. level all indicated that the MANOVA assumptions were met (see Appendices 67, 68 and 69). Cell means and standard deviations for discrimination and recall are found in Appendix 70. Graphs of dependent measures according to Other by Self at Agentic and Communal Message Levels, Message by Other across levels of Self, and Message by Self across levels of Other are found in Appendices 71, 72 and 73.

Planned Contrasts

The planned contrast procedure outlined for the judgment data also was followed to test the hypotheses for memory. Because no significant results were achieved for Other within the communal message or for Self within the agentic message, no support was found for $H1_e$, $H1_f$, $H2_e$ and $H2_f$ (Table 57, Appendix 74). As predicted, High Self/High Other subjects did not exhibit differential recognition or recall for the two message conditions (Table 58, Appendix 74). Nor did Low Self/Low Other subjects differ. Therefore, hypotheses $H3_{e\text{-}iii}$, $H3_{e\text{-}iv}$, $H3_{f\text{-}iii}$ and $H3_{f\text{-}iv}$ are confirmed. However, because significant effects did not appear for Message at High Self/Low Other and Low Self/High Other, no support was found for $H3_{e\text{-}i}$, $H3_{e\text{-}ii}$, $H3_{f\text{-}i}$ and $H3_{f\text{-}ii}$.

Interaction Interpretation

As with the judgment data, no simple two-way interactions were found between Self and Other within the two message levels. A comparison of the profiles for Message by Other across levels of Self (Appendix 72) indicated that there were Message by Other crossovers for both Discrimination and Recall at Low Self. This was verified by the presence of a simple two-way multivariate interaction of Message by Other at Low Self (see Table 59, Appendix 75). Correlations between the dependent and canonical variables indicated that Discrimination was primarily responsible for the interaction (correlation of .976) while Recall was much less important (.490). Next, Bonferroni joint multivariate confidence intervals were computed for the comparisons of Low vs. Moderate Other and Moderate vs. High Other across Message. A significant difference in Discrimination for the two ads was found between Low and Moderate Other. Although the pattern of results for Recall is similar, this interval was non-significant (Table 60, Appendix 75).

The profiles for the Message by Self interaction also appeared to differ across the levels of Other (graphs in Appendix 73). Because this interaction approached significance ($p = .053$), Bonferroni joint multivariate confidence intervals were computed for purposes of profile analysis (see Tables 61 and 62, Appendix 75). Inspection of the discriminant function indicated that recall was of much greater importance than discrimination in this simple two-way interaction (correlation of .958 vs. .554); confidence intervals revealed no significant differences in discrimination but found significant differences in recall between Low and Moderate Self across the two messages.

Simple Main Effects

To follow up on the Message by Other interaction within Low Self, simple main effects analyses were conducted for Message within the levels of Other. A simple main effect was found for Message at Moderate Other (Table 63, Appendix 76); Bonferroni joint multivariate confidence intervals revealed significantly better Discrimination in the agentic message condition (Table 64, Appendix 76). Next, simple main effects were conducted to investigate the Message by Self interaction at Low Other. A significant multivariate effect for Message was found at Moderate Self, with superior recall for the agentic ad (see Tables 65 and 66, Appendix 76). Finally, a simple main effect for Self was found within the communal message, with better discrimination found among Low than High Self subjects (see Tables 67 and 68, Appendix 76).

Selectivity Hypothesis

The data also were subjected to MANOVA analysis that included Message and Sex factors. As with the analysis that included the Message, Self and Other factors, this analysis revealed a significant main effect for message in that the agentic ad was better remembered. The significant main effect for sex that also emerged was consistent with prior selectivity hypothesis findings in that females demonstrated superior memory for a message in which incongruity was low (see Table 69, Appendix 77). Because the inclusion of Sex with the self-concept orientation factors resulted in highly unbalanced cell sizes, the nature of the significant finding for sex was further explored with separate MANOVA analyses for males and females that included Message, Self-orientation and Other-orientation as factors. The analysis conducted with females revealed a significant main effect for Message such that the agentic message was better remembered (Table 70, Appendix 77). Among males, however, no main effects emerged but a three-way interaction was revealed (Table 71, Appendix 77). Cursory inspection of the two-way profiles for Other by Self at the two message levels (Appendix 78), Message by Other across the levels of Self (Appendix 79), and Message by Self across the levels of Other (Appendix 80) was undertaken. The agentic vs. communal ad profiles suggest simple two-way interactions between Self and Other, while the profiles for Other by Message across the levels of Self indicate interactions at Moderate and High Self. Finally, the Self by Message profiles across the levels of Other indicate an interaction at Low Other. However, none of these simple two-way interactions was significant. Nevertheless, the differing pattern of results for males versus females indicates the possibility of a four-way interaction among Sex, Message, Self-orientation and Other-Orientation.

Discussion

It should be noted that discrimination was very poor. While Snodgrass and Corwin (1988) reported mean discrimination of 3.35 among normal subjects, in this instance the mean discrimination index was only slightly better than chance at .84. It may be that the low involvement learning task in a mass testing situation resulted in floor effects. Consequently, the confirmation of $H3_{e\text{-}iii}$, $H3_{e\text{-}iv}$, $H3_{f\text{-}iii}$ and $H3_{f\text{-}iv}$ must be regarded as tenuous, given that support depends on having found no differences under conditions in which they were unlikely to emerge.

Nevertheless, the presence of the three-way interaction in conjunction with non-linear relationships indicates that Self- and Other-orientation are important variables in understanding memory for agentic and communal advertising messages. The significant main effect for Message was consistent with past advertising research in that subjects exhibited better memory for the preferred agentic ad. Of greater interest, however, was the finding that higher levels of Self were associated with poorer memory outcomes. In conjunction with the correlation between Self-orientation and Intuitive Decision-making style, this result indicates that subjects who are higher on Self-orientation are more likely to engage in selective or heuristic processing.

Finally, the differing pattern of male and female results achieved in analyses that included Message, Self and Other factors demonstrates that the relationships between biological sex and memory for agentic and communal advertising messages is far more complex than that theorized by the selectivity hypothesis research stream.

CONCLUSION

As currently conceived, the selectivity hypothesis confounds the enduring category of biological sex with the socially constructed and shifting category of gender. Of uncertain value at present, its utility will be increasingly questionable if commentators such as Nelson are correct in describing the "twenty-something" group as the "most gender-rejecting target that advertisers of products unrelated to gender have ever faced" (1994, p. 171). These were precisely the conditions under which the selectivity hypothesis and the self-concept orientation hypothesis were compared. When covariates were included in the analysis, no selectivity hypothesis predictions were supported for judgment variables. However, Self- and Other-orientation were significant predictors of certain judgments in response to agentic and communal advertising messages.

Analysis of the manipulation check provided further insight into relationships between self-concept orientation and response to message manipulation. The higher the level of Other, the greater the tendency among subjects to regard both the agentic and communal ads as being oriented toward relationships with others. This finding is consistent with an interpretation that higher scores on Other-orientation are associated with an enhanced propensity or ability to engage in an identification task. Furthermore, the higher the level of Self, the more likely subjects were to rate the communal ad as being oriented toward the needs of the individual, providing support for an interpretation that highly Self-oriented subjects are selective processors. Even when attention was specifically directed toward the task of forming judgments, the higher the level of Self-orientation, the greater the tendency to focus on self-related information.

Results obtained in the self-concept orientation analysis of memory provided further support for the view that High Self subjects would exhibit a tendency toward heuristic processing. Within the framework of an incidental learning task followed by unaided recall and recognition, poorer memory outcomes were associated with higher levels of Self-orientation.

MANOVA analysis with Sex and Message factors, however, indicated that sex does play a role in memory for agentic and communal advertising messages even when it does not affect judgments. The selectivity hypothesis proposition that females would exhibit superior memory for advertising information in low incongruity messages was supported. This finding suggests that the incidental learning task was below the male threshold for elaboration. Nevertheless, additional analyses that included the self-concept orientation factors revealed a far more complex picture than that posited by Meyers-Levy and her colleagues. Results obtained with females revealed only a main effect for message, with better memory for the agentic message. However, the three-way interaction among Message, Self and Other factors found for males cannot be explained by a threshold account of male and female differences in elaboration. Nor is the absence of a message effect among males consistent with the early selectivity hypothesis predictions. Future research with pre-selected subjects is recommended to explore the possibility of a four-way interaction in a balanced design.

CHAPTER 9

CONCLUSION

This investigation of self-concept orientation in response to agentic and communal advertising messages makes several contributions to the marketing and psychology literature. First, examination of the anecdotal literature provided several examples of recent agentic and communal appeals that conflict with selectivity hypothesis recommendations for male and female targets and highlighted the need to test the selectivity hypothesis gender role assumptions. Chapter 3, which examined the selectivity hypothesis papers in greater detail, noted that while Meyers-Levy now argues for both social and biological antecedents of advertising consequences (1994), this research stream still does not make clear the distinction between biological sex and aspects of psychological gender.

The extensive review of existing gender identity measures identified the need for unidimensional, reliable and valid measures of Self- and Other-orientation. In addition, this review indicated that agency and communion (or Self- and Other-orientation) should not be positioned as endpoints in a bipolar continuum such as the manipulation check used by Meyers-Levy in her first experiment (1988). Nor should Self- and Other-orientation be used to classify subjects according to a four-level single factor framework in a manner analogous to the Bem or Spence masculine, feminine, androgynous and undifferentiated categories. Rather, the appropriate method treats Self- and Other-orientation as two factors and thus allows independent tests of main effects and interactions. The importance of this distinction is particularly important in a context where two- and three-way interactions are predicted and obtained.

In addition to the construct measurement and methods literature, the vast social psychology and consumer behaviour literature pertaining to the impact of psychological gender in marketing contexts has been reviewed and organized into a coherent framework that is interpretable according to the Self- and Other-orientation constructs. Furthermore, this review identifies individual differences in personality, cognition and behaviour that may be related to self-concept orientation, as well as important segmentation variables including occupation, field of study and geographic region. Until norms and similar segmentation information are available for the SO scales, this review will provide the starting point for "educated guesses" about the self-concept orientation of particular market segments.

The development of Self- and Other-orientation scales that are reliable, parsimonious and valid is a very important contribution to the marketing and psychology fields. Not only will these scales be useful for advertising research but they also will allow marketing and psychology researchers to revisit other "old" gender research topics with a new theoretical framework. The SO scales should be particularly important in the investigation of phenomena that can be conceptualized as behaviours with consequences both for the self and others. Voluntarism or philanthropy, for example, may be motivated by both self-related rewards such as the acquisition of important skills or elevation of social status as well as other-related consequences such as making an important contribution to the community or a valued cause. In addition, Self- and Other-orientation may provide insight into activities such as gift-giving, shopping behaviour, and household decision-making. Research questions concerning sales force selection and training, channel negotiation, service quality and satisfaction may also benefit from the self-concept orientation constructs. Furthermore, cross-cultural researchers in marketing and psychology who are interested in the higher order constructs of "separate" and "connected" also will find that these scales compare favourably both in terms of dimensionality and reliability with existing measures such as Triandis' individualism and collectivism (Triandis 1995).

Self- and Other-orientation have direct implications for the five-factor model of personality (Costa and McCrae 1992), but the scale validation and experimental data demonstrate that these constructs go well beyond issues of personality and are related to cognitive preferences and decision-making style. High levels of Self-orientation are positively associated with selective or heuristic processing and are negatively related to dependent decision-making style. It also must be emphasized that Other-orientation is independent from Self-orientation rather than being its opposite. Although High Self individuals may be selective processors, it does not necessarily follow that High Other subjects are more effortful or elaborate. If this were the case, we should expect to see main effects for Other emerging in recognition and recall. This did not occur. When Other-orientation is high, advertising judgments are more favourable, but the lack of relationship between Other-orientation and Dependent Decision-making style suggests that these results are not obtained because these individuals are compliant or more easily persuaded. Rather, higher scores on Other-orientation are related to a greater tendency to perceive relational information in both the agentic and communal ad as well as greater ease or facility with an empathetic or identification task. Taken together, this evidence indicates that the Self- and Other-orientation scales are not simply measuring personality traits but do serve as adequate indicators of the type of self-concept organization described by Markus and Oyserman as "separate" and "connected".

It is clear that future theorizing must take into account the differing implications of Self- and Other-orientation for cognition and personality in addition to accommodating cross-over interactions and non-linear relationships between the dependent variables and Self- and Other-orientation. As initially conceived, the self-concept orientation hypothesis proposed linear relationships predicated on High-Low dichotomies. Recall that two-way interactions were expected between Message and Self-orientation for both judgments and memory. Compared with Low Self individuals, High Self subjects were expected to express more favourable judgments and exhibit superior memory for the agentic ad. Neither of these two predictions was supported. A two-way interaction between Message and Other-orientation also was expected. This planned contrast did receive omnibus multivariate confirmation for the four judgment variables, with higher levels of Other being associated with more favourable judgments. However, none of the simultaneous confidence intervals was significant. Neither was support found for the memory predictions.

In addition, a three-way interaction among Self, Other and Message was hypothesized. High-S/Low-O individuals were expected to react more favourably to an agentic than a communal message, and the reverse pattern was anticipated for Low-S/High-O subjects. No differential response was predicted for High-S/High-O and Low-S/Low-O subjects. As predicted, judgments of the Low-S/Low-O subjects did not differ by ad condition. Furthermore, support was received for the High-S/High-O contrast with the exception of Ad Identification. As noted earlier, it seems likely that these predominantly young and single subjects simply found it more difficult to identify with the communal ad's family context. Although Low-S/High-O subjects were expected to react more favourably to the communal ad, they in fact expressed higher degrees of Ad Identification and more favourable intentions in response to the agentic ad. Their written comments in the recall task suggested that they perceived the communal ad as artificial and manipulative, while the agentic ad appeared to represent freedom or escape from relationship demands. Finally, the High-S/Low-O subjects who were expected to prefer the agentic ad did not in fact distinguish between the two ads. Instead, they appeared to focus on the self-related information and discount the relationship implications of the communal ad.

The results for the three-way interaction memory planned contrasts provided support for predictions of no differential response for Low-S/Low-O and High-S/High-0 subjects. However, as noted in Chapter 8, the likelihood of a floor effect renders this support tenuous at best. Of particular interest is the finding that impact of self-concept orientation on memory for agentic and communal messages differed for males and females. These results suggest that in addition to the agentic and communal positioning, advertisers may still require separate advertising strategies for males and females. Although cell sizes would not permit a four-way analysis, these findings point to the necessity of conducting future research with pre-selected subjects in a balanced four-way design.

Several issues concerning the appeals need to be clarified with future research. Although the message manipulation was successful in a general sense and significant findings emerged, effect sizes (η^2) were small and may not have been detected with fewer subjects. The majority of effect sizes fell below the interquartile range of .043 to .268

reported in Haase, Waechter and Solomon's (1982) calculation of eta-squared for 11,104 tests of statistical significance reported in the *Journal of Counseling Psychology* between 1970 and 1979. Appeals that are more strongly agentic and communal may produce larger effects.

Second, care must be taken to ensure that the appeals are more "purely" agentic and communal. The professions selected for the communal ad were chosen because of their relational implications while the overall message was intended to convey the theme that running not only allowed one to become "better" in an individual sense but also involved strengthening or improving relationships. However, subjects who were High Self/Low Other appeared to consider only the implications for personal success. Future theory testing should investigate the response of these subjects to communal advertisements in which the relational information is less easily ignored or superseded by self-relevant information. Furthermore, the agentic ad seemed to appeal to the Low Self/High Other subjects because it suggested an escape from relationship demands. More thorough pre-testing with qualitative data in conjunction with the measurement of Self and Other is recommended to ensure that the appeals are perceived as intended. Also of interest would be responses to ads that are primarily Other-oriented rather than both Self- and Other-oriented. Finally, it should be noted that both appeals required subjects to project beyond their current life situation either in career or relationship terms. Construction of appeals that are more relevant to subjects' current life situation may produce larger effects.

Theory testing with a population that is more diverse in terms of Self- and Other-orientation also is recommended. It seems reasonable to expect that scores on the SO scales will vary not just with sex, but also with age, cohort, stage of life cycle, income, education, occupation and subculture. In order for the self-concept orientation hypothesis to be truly useful for practitioners, the relationships between these types of segmentation variables and the latent constructs of Self- and Other-orientation must be established.

Finally, it should be noted that the self-concept orientation hypothesis was tested under stringent conditions. That is, the product category had no gender, Self- or Other-orientation connotations. In addition, the message manipulated only the agentic and communal benefits of running rather than those of the shoe itself. It may be that Self- and Other-orientation are of lesser importance when peripheral cues are manipulated in low involvement conditions. Larger effects may be found with products or services for which the benefits are directly related to independent and interdependent concerns such as those associated with life insurance, financial planning and health services.

With respect to immediate managerial implications, the null results for the selectivity hypothesis indicate that marketers should proceed with caution if they intend to target agentic and communal messages on the basis of biological sex. It may be the case that the majority of males and females have self-concepts that are consistent with the expected independent-interdependent distinction. However, the research described in Chapter 5 indicates that this is not the case where the "twenty-something" student population is concerned. Furthermore, the counter-intuitive results obtained in the test of the self-concept orientation hypothesis indicate that great care must be taken to construct appeals that are perceived as intended. For this age group, it appears that an appeal to self-interest is the most successful in eliciting identification with the ad and encouraging favourable attitudes and intentions. When a younger population is targeted, advertisers should use agentic messages unless they know that they are appealing to an audience that is highly Other-oriented.

Despite certain counter-intuitive and null experimental results, this thesis represents an important advance in the marketing literature. Parsimonious, reliable and valid measures of Self- and Other-orientation have been developed and these operationalizations account for differences in judgment variables when biological sex does not. The self-referencing literature also is extended in that this research demonstrates that self-concept orientation is related to identification with the ad when message orientation is varied. Furthermore, it appears that the self-concept orientation constructs are not simply dimensions of personality but also figure in information processing preferences and decision-making style. Consequently, our understanding of the relationship between these constructs and advertising response is enhanced.

Long neglected by marketing academics, the investigation of so-called gender differences in information processing has been reopened in a manner that treats aspects of psychological gender as measurable individual differences in self-concept that are *distinct from* but may *interact with* biological sex. Most important, however, is the establishment of a foundation for future "gender" research in marketing that depends not on dynamic cultural constructions but on measurable individual differences with theoretical staying power.

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APPENDIX 1

Long Bem Sex Role Inventory (Bem 1974))

Respondents rate themselves on each item according to a seven-point scale: (1) never or almost never true of me; (2) usually not true of me; (3) sometimes but infrequently true of me; (4) occasionally true of me; (5) often true of me; (6) usually true of me; (7) always true or almost always true of me.

Masculine Items
Acts as a leader
Aggressive
Ambitious
Analytical
Assertive
Athletic
Competitive
Defends own beliefs
Dominant
Forceful
Has leadership abilities
Independent
Individualistic
Makes decisions easily
Masculine
Self-reliant
Self-sufficient
Strong personality
Willing to take a stand
Willing to take risks

Feminine Items
Affectionate
Cheerful
Childlike
Compassionate
Does not use harsh language
Eager to soothe hurt feelings
Feminine
Flatterable
Gentle
Gullible
Loves children
Loyal
Sensitive to needs of others
Shy
Soft spoken
Sympathetic
Tender
Understanding
Warm
Yielding

Neutral Items
Adaptable
Conceited
Conscientious
Conventional
Friendly
Happy
Helpful
Inefficient
Jealous
Likable
Moody
Reliable
Secretive
Sincere
Solemn
Tactful
Theatrical
Truthful
Unpredictable
Unsystematic

Short Bem Sex Role Inventory (Bem 1979)

Masculine Items
Aggressive
Assertive
Defends own beliefs
Dominant
Forceful
Has leadership abilities
Independent
Strong personality
Willing to take a stand
Willing to take risks

Feminine Items
Affectionate
Compassionate
Eager to soothe hurt feelings
Gentle
Loves children
Sensitive to needs of others
Sympathetic
Tender
Understanding
Warm

APPENDIX 2

Personal Attributes Questionnaire (Spence, Helmreich and Stapp 1975)

Respondents rate themselves according to where they feel they are positioned between the two poles. F and M scale items are scored from 0 (A) to 4 (E), with the exception of *can make decisions easily*, which is scored from 4(A) to 0(E).

M-F	Not at all aggressive	A_B_C_D_E_	Very aggressive
M	Not at all independent	A_B_C_D_E_	*Very independent*
F	Not at all emotional	A_B_C_D_E_	*Very emotional*
M-F	Very submissive	A_B_C_D_E_	Very dominant
M-F	Not at all excitable major crisis	A_B_C_D_E_	Very excitable in a major crisis
M	Very passive	A_B_C_D_E_	*Very active*
F	Not able to devote self completely to others	A_B_C_D_E_	*Able to devote self completely to others*
F	Very rough	A_B_C_D_E_	*Very gentle*
F	Not at all helpful to others	A_B_C_D_E_	*Very helpful to others*
M	Not at all competitive	A_B_C_D_E_	*Very competitive*
M-F	Very home-oriented	A_B_C_D_E_	Very worldly
F	Not at all kind	A_B_C_D_E_	*Very kind*
M-F	Indifferent to others' approval	A_B_C_D_E_	Highly needful of others' approval
M-F	Feelings not easily hurt	A_B_C_D_E_	Feelings easily hurt
F	Not at all aware of feelings of others	A_B_C_D_E_	*Very aware of feelings of others*
M	*Can make decisions easily*	A_B_C_D_E_	Has difficulty making decisions
M	Gives up very easily	A_B_C_D_E_	*Never gives up easily*

M-F	Never cries	A_B_C_D_E_	Cries very easily
M	Not at all self-confident	A_B_C_D_E_	*Very self-confident*
M	Feels very inferior	A_B_C_D_E_	*Feels very superior*
F	Not at all understanding of others	A_B_C_D_E_	*Very understanding of others*
F	Very cold in relation to others	A_B_C_D_E_	*Very warm in relation to others*
M-F	Very little need for security	A_B_C_D_E_	Very strong need for security
M	Goes to pieces under pressure	A_B_C_D_E_	*Stands up well under pressure*

Pedhazur and Tetenbaum (1979)

Factor structure of Long BSRI, masculine and feminine items
Principal Components orthogonal rotation, loadings >.40

Females (n=400)

Factor 1 (Assertiveness)	Factor 2 (Interpersonal Sensitivity)	Factor 3 (Self-sufficiency)	Factor 4 (Bipolar MF)
Defends own beliefs	Cheerful	Self-reliant	Masculine*
Independent	Affectionate	Independent	Feminine
Assertive	Feminine	Self-sufficient	
Strong personality	Sympathetic	Gullible*	
Forceful	Sensitive to needs of others	Childlike*	
Has leadership abilities	Understanding		
Willing to take risks	Compassionate		
Makes decisions easily	Eager to soothe hurt feelings		
Self-sufficient	Warm		
Dominant	Tender		
Willing to take a stand	Loves children		
Aggressive	Gentle		
Acts as a leader			
Individualistic			
Competitive			
Ambitious			
Shy*			
39.6%**	28.0%	9.5%	6.1%

Males (n=171)

Factor 1 (Interpersonal Sensitivity)	Factor 2 (Assertiveness)	Factor 3 (Self-sufficiency)	Factor 4 (Bipolar MF)
Cheerful	Assertive	Self-reliant	Masculine
Affectionate	Strong personality	Defends own belief	Feminine*
Sympathetic	Forceful	Independent	Gullible*
Understanding	Has leadership abilities	Assertive	Childlike*
Compassionate	Dominant	Strong personality	
Eager to soothe hurt feelings	Aggressive	Willing to take risks	
Warm	Acts as a leader	Self-sufficient	
Tender	Ambitious	Willing to take a stand	
Loves children	Shy*	Individualistic	
Gentle		Loyal	
25.9%**	21.1%	17.5%	8.5%

* Negative Loading
** Explained variance

APPENDIX 4

Ryan, Dolphin, Lundberg and Myrsten (1987)

Principal components analysis of 60 BSRI items, orthogonal rotation
Loadings >.30

Factor 1
Feminine Nurturance

Sympathetic	.77
Compassionate	.76
Sensitive	.75
Understanding	.74
Sincere	.71
Loyal	.68
Soothes hurt	.68
Warm	.67
Reliable	.66
Helpful	.63
Gentle	.62
Conscientious	.61
Tender	.59
Affectionate	.58
Happy	.58
Friendly	.58
Likeable	.55
Cheerful	.50
Truthful	.50
Loves children	.45
Takes a stand	.39
Defends beliefs	.38
Tactful	.37
Adaptable	.35
Conventional	.33
Soft-spoken	.31

Factor 2
Masculine Dominance

Dominant	.74
Has leadership abilities	.72
Acts as a leader	.70
Forceful	.67
Strong personality	.65
Assertive	.64
Aggressive	.42
Competitive	.42
Theatrical	.40
Takes a stand	.40
Ambitious	.39
Decisive	.38
Takes risks	.31
Defends own beliefs	.30
Shy	.35*

Factor 3
Masculine Autonomy

Self-reliant	.64
Self-sufficient	.63
Independent	.62
Individualistic	.59
Adaptable	.38
Analytic	.35
Takes risks	.32
Takes a stand	.32

Factor 4
Immaturity

Gullible	.53
Conceited	.44
Unpredictable	.42
Unsystematic	.42
Ineffective	.41
Jealous	.40
Flatterable	.37
Moody	.35
Childish	.35

Factor 5
Sociability

Cheerful	.49
Happy	.43
Friendly	.40
Likeable	.32
Shy	.32*
Aggressive	.39*
Solemn	.39*
Moody	.41*

Factor 6
Gender

Masculine	.84
Athletic	.39
Feminine	.89*

* Negative loading

APPENDIX 5

Marsh and Myers (1986)

CFA of Selected BSRI Long items

	Factor loadings (Lambda)
	Masculine scale
Defends own beliefs	.50
Independent	.43
Athletic	.14
Strong personality	.60
Has leadership abilities	.58
Willing to take a stand	.47
Makes decisions easily	.33
Self-sufficient	.46
Willing to take risks	.33
Aggressive	.02* (ns)
Acts as a leader	.41
Individualistic	.38
Competitive	.26
Ambitious	.53
	Feminine scale
Cheerful	.39
Shy	.06*(ns)
Loyal	.48
Sympathetic	.53
Sensitive	.56
Understanding	.57
Eager to soothe hurt feelings	.60
Soft-spoken	.23
Warm	.71
Tender	.58
Childlike	.09 (ns)
Harsh language	.15 (ns)
Loves children	.29
Gentle	.59

* Negative loading

APPENDIX 6

Blanchard-Fields, Suhrer-Roussel and Hertzog (1994)

CFA of 20 BSRI M items and 16 BSRI F items

		Standardized Factor Loadings		
		Females	All	Males
Interpersonal Affect	Yielding	.27	.20	.41
	Cheerful	.51	.49	.54
	Affectionate	.67	.63	.72
	Loyal	.49	.53	.44
	Soft-spoken	.49	.32	.50
	Warm	.80	.80	.80
	Tender	.77	.81	.71
	Loves children	.46	.44	.47
	Gentle	.78	.77	.85
Decisive	Defends beliefs	.48	.47	.52
	Assertive	.43	.43	.25
	Strong personality	.68	.68	.69
	Has leadership ability	.70	.68	.69
	Willing to take risks	.48	.45	.44
	Makes decisions easily	.56	.52	.60
	Willing to take a stand	.65	.62	.68
	Aggressive	.34	.32	.42
	Acts as a leader	.71	.70	.68
	Ambitious	.55	.53	.60
Shy	Yielding	.27	.27	.29
	Shy	.56	.61	.51
	Soft-spoken	.62	.55	.76
	Gentle	.25	.17	.36
Self-sufficient	Self-reliant	.71	.72	.69
	Independent	.73	.77	.66
	Self-sufficient	.75	.77	.72
	Individualistic	.52	.54	.46
Athletic	Athletic	.77	.84	.74
	Competitive	.48	.34	.53
Dominant	Assertive	.32	.30	.54
	Forceful	.70	.67	.71
	Dominant	.69	.67	.69
	Aggressive	.44	.46	.34
	Competitive	.42	.50	.34
Compassionate	Sympathetic	.73	.71	.72
	Sensitive to needs	.74	.68	.80
	Understanding	.72	.75	.68
	Compassionate	.80	.77	.82
	Eager to soothe hurt feelings	.68	.65	.69

Campbell, Gillaspy and Thompson (1997)

CFA of BSRI Short Form F and M items
Correlated two-factor model

	Factor loadings (Lambda)
	Masculine scale
Defends own beliefs	.469
Independent	.394
Assertive	.700
Strong personality	.640
Forceful	.474
Has leadership abilities	.591
Willing to take risks	.479
Dominant	.663
Willing to take a stand	.614
Aggressive	.628
	Feminine scale
Affectionate	.651
Sympathetic	.677
Sensitive	.684
Understanding	.635
Compassionate	.771
Eager to soothe hurt feelings	.649
Warm	.770
Tender	.794
Loves children	.383
Gentle	.757

Self-orientation and Other-orientation Item Pool

Please rate each item below according to how well you think these statements describe you, where 1 = never true of me and 9 = always true of me. For example, if the statement were "I am a creative person," and you thought that this was hardly ever true of you, you might circle 2. If you thought this was true about half the time, you might circle 5.

1) My intuition is good when it comes to understanding others' motives.

2) If I want something, I believe it's my responsibility to work for it.

3) When I am making a decision, the consequences for me personally are the most important factor.

4) Relationships with other people are important to me.

5) I am in charge of my own life.

6) My friends can count on me for support.

7) I am a nurturing person.

8) I take responsibility for my own actions and behaviors.

9) I enjoy cooperating on committees with others.

10) I am a self-sufficient person.

11) I like to do things that make people happy.

12) I am my own person.

13) When I am making a decision, I consider what impact it will have on other people.

14) I am comfortable with taking on a leadership position.

15) When I am having an emotionally difficult time, I keep it to myself.

16) I strive for harmony in personal relationships.

17) I prefer to depend on myself to get the job done.

18) I am understanding.

19) I make my own choices.

20) I am aware of other people's emotions.

21) I am self-reliant.

22) It is easy for me to put myself in another person's place and imagine what he/she is thinking and feeling.

23) I like setting my own goals.

24) In work situations, I prefer to have my own area of authority so that I can operate independently of others.

25) I am a compassionate person.

26) I resist conforming to social pressures.

27) I am helpful toward my family and friends.

28) I believe that I am in control of important events in my life.

29) I am sociable.

30) I believe that it's up to me whether I succeed or fail.

31) When something awkward happens in a social situation, I try to smooth things over.

32) When I believe in something, I stand by my convictions.

33) I consult other people when I make a decision.

34) Achieving my own personal goals is important to me.

35) I am sympathetic.

36) I ask for help with a problem only when I am unable to solve it myself.

37) I like working with others to achieve a common goal.

38) I am autonomous.

39) I enjoy being by myself.

40) I encourage and support other people in achieving their goals.

41) I am concerned about the well-being of others.

42) I prefer to work on projects on my own.

43) I am sensitive to other people's needs.

44) I am an independent person.

45) When I am talking with someone, I am attentive to even small changes in that person's facial expression.

46) I prefer to learn new things on my own rather than rely on someone to help me.

47) If I am having a problem, I like to talk it over with a friend.

48) I like to interact with other people.

49) I like to do my own thing.

50) I avoid hurting other people's feelings.

APPENDIX 9

Self- and Other-Orientation

Please rate each item below according to how well you think these statements describe you, where 1 = never true of me and 9 = always true of me. For example, if the statement were "I am a creative person," and you thought that this was hardly ever true of you, you would write a 2 beside the statement. If you thought that this was true about half the time, you might write a 5.

1	2	3	4	5	6	7	8	9
never true of me								always true of me

1) I am a nurturing person.

2) I am a self-sufficient person.

3) I am understanding.

4) I make my own choices.

5) I am a compassionate person.

6) I am my own person.

7) I am self-reliant.

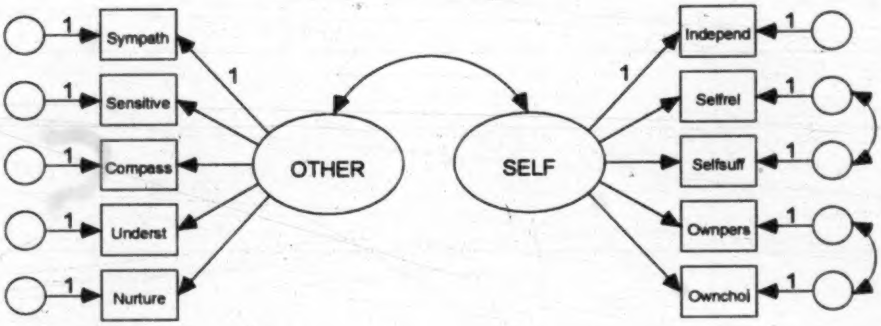
8) I am sympathetic.

9) I am sensitive to the needs of others.

10) I am an independent person.

APPENDIX 10

Figure 1
Self-orientation and Other-orientation



1
Sympath
1
Sensitive
1
Compass
1
Underst
1
Nurture
1
OTHER
SELF
1
Independ
1
Selfrel
1
Selfsuff
1
Ownpers
1
Ownchoi
1
1
1
1
1

Exploratory Sample: Chi-sq. (32) = 69.42, p < .001
CFI = .983
RMSEA = .049

Confirmatory Sample: Chi-sq. (32) = 51.44, p = .02
CFI = .991
RMSEA = .035

Validation Sample: Chi-sq. (32) = 62.48, p = .001
CFI = .976
RMSEA = .059

APPENDIX 11

Table 1
Standardized Regression Weights, Correlations, Fit and Descriptive Statistics: Exploratory, Confirmatory and Validation Samples

	EFA, n=485		CFA, n=485		Validity, n=273	
Standardized Regression Weights						
	Self	Other	Self	Other	Self	Other
Self-reliant	.846		.748		.706	
Self-sufficient	.773		.657		.657	
Own person	.595		.547		.531	
Own choices	.574		.610		.710	
Independent	.732		.846		.865	
Compassionate		.873		.840		.806
Nurturing		.764		.788		.700
Sympathetic		.820		.826		.785
Sensitive		.777		.777		.789
Understanding		.637		.691		.541
Correlations						
Self/Other	.26		.24		-.003	
Error (SR-SS)	-.04		.24		.26	
Error (OC-OP)	.19		.27		.39	
Fit Statistics						
NFI	.969		.977		.952	
NNFI	.976		.987		.966	
CFI	.983		.991		.976	
GFI	.958		.969		.947	
RMR	.047		.045		.058	
RMSEA	.049		.035		.059	
Descriptive Statistics						
Mean	7.43	7.28	7.37	7.17	7.27	6.99
Median	7.60	7.40	7.40	7.40	7.40	7.10
S. Deviation	.96	1.11	.96	1.21	1.02	1.04
Scale Reliability	.83	.88	.83	.89	.84	.84

Social Desirability (Crowne and Marlowe 1964)

Respondents are asked to indicate whether they believe the following statements are true (or not true) of them.

1) Before voting, I thoroughly investigate the qualifications of all the candidates.

2) I never hesitate to go out of my way to help someone in trouble.

3) It is sometimes hard for me to go on with my work if I am not encouraged.

4) I have never intensely disliked anyone.

5) On occasion I have had doubts about my ability to succeed in life.

6) I sometimes feel resentful when I don't get my own way.

7) I am always careful about my manner of dress.

8) My table manners at home are as good as when I eat out in a restaurant.

9) If I could get into a movie without paying and be sure I was not seen, I would probably do it.

10) On a few occasions, I have given up doing something because I thought too little of my ability.

11) I like to gossip at times.

12) There have been times when I felt like rebelling against people in authority even though I knew they were right.

13) No matter who I'm talking to, I'm always a good listener.

14) I can remember "playing sick" to get out of something.

15) There have been occasions when I took advantage of someone.

16) I'm always willing to admit it when I make a mistake.

17) I always try to practice what I preach.

18) I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

19) I sometimes try to get even, rather than forgive and forget.

20) When I don't know something I don't at all mind admitting it.

21) I am always courteous, even to people who are disagreeable.

22) At times I have really insisted on having things my own way.

23) There have been occasions when I felt like smashing things.

24) I would never think of letting someone else be punished for my wrongdoings.

25) I never resent being asked to return a favor.

26) I have never been irked when people expressed ideas very different from my own.

27) I never make a long trip without checking the safety of my car.

28) There have been times when I was quite jealous of the good fortune of others.

29) I have almost never felt the urge to tell someone off.

30) I am sometimes irritated by people who ask favors of me.

31) I have never felt that I was punished without cause.

32) I sometimes think when people have a misfortune they only got what they deserved.

33) I have never deliberately said something that hurt someone's feelings.

APPENDIX 13

Horizontal Individualism and Collectivism (Triandis 1995)

Respondents use a 9-point scale, anchored by strongly disagree and strongly agree, to indicate their responses to the statements below.

Horizontal Individualism

1) I prefer to be direct and forthright when I talk to people.

5) One should live one's life independently of others.

6) What happens to me is my own doing.

18) I often do "my own thing".

15) I enjoy being unique and different from others in many ways.

21) I am a unique individual.

25) I like my privacy.

32) When I succeed, it is usually because of my abilities.

Horizontal Collectivism

2) My happiness depends very much on the happiness of those around me.

9) It is important for me to maintain harmony within the group.

11) I like sharing little things with my neighbours.

14) The well-being of my co-workers is important to me.

16) If a relative were in financial difficulty, I would help within my means.

20) If a co-worker gets a prize I would feel proud.

22) To me, pleasure is spending time with others.

28) I feel good when I cooperate with others.

NEO Assertiveness and Altruism (Costa and MacCrae 1992)

Respondents use a 5-point scale, anchored by strongly disagree and strongly agree, to indicate their responses to the statements below.

NEO Assertiveness

I am dominant, forceful, and assertive.

I sometimes fail to assert myself as much as I should.

I have often been a leader of groups I have belonged to.

In meetings, I usually let others do the talking.

Other people often look to me to make decisions.

I would rather go my own way than be a leader of others.

In conversations, I tend to do most of the talking.

I don't find it easy to take charge of a situation.

NEO Altruism

Some people think I'm selfish and egotistical.

I try to be courteous to everyone I meet.

Some people think of me as cold and calculating.

I generally try to be thoughtful and considerate.

I'm not known for my generosity.

Most people I know like me.

I think of myself as a charitable person.

I go out of my way to help others if I can.

APPENDIX 15

Rational, Dependent and Intuitive Decision-Making Styles
(Buck and Daniels 1985)

Subjects respond to 30 statements using a 7-point scale anchored by "strongly disagree" (1) and "strongly agree".

Rational Decision-making Style

1) I am very systematic when I go about making an important decision.

5) I rarely make an important decision without gathering all the information I can find.

7) When I make a decision I consider its consequences in relation to decisions I will have to make later on.

13) When I need to make a decision I take my time and think it through carefully.

17) When an important decision is coming up, I look far enough ahead so I'll have enough time to plan and think it through before I have to act.

18) I double-check my information sources to be sure I have the right facts before deciding.

20) Before I do anything important, I have a carefully worked-out plan.

25) I don't make decisions hastily because I want to be sure I make the right decisions.

28) Often I see each of my decisions as stages in my progress toward a definite goal.

30) I like to learn as much as I can about the possible consequences of a decision before I make it.

Intuitive Decision-making Style

3) I make decisions pretty creatively, following my own inner instincts.

4) I usually make my decisions based on how things are for me right now rather than how they'll be in the future.

6) I often make a decision which is right for me without knowing why I made the decision.

10) Even on important decisions I make up my mind pretty quickly.

11) When I make a decision I just trust my inner feelings and reactions.

14) I often decide on something without checking it out and getting the facts.

19) I don't really think about the decision; it's in the back of my mind for awhile, then suddenly it will hit me and I know what I will do.

22) In coming to a decision about something, I usually use my imagination or fantasies to see how I would feel if I did it.

24) I don't have to have a rational reason for most decisions I make.

26) A decision is right for me if it is emotionally satisfying.

Dependent Decision-making Style

2) I like to have someone to steer me in the right direction when I am faced with an important decision.

8) When I make a decision it is important to me what my friends think about it.

9) I really have a hard time making important decisions without help.

12) I often make decisions based on what other people think, rather than on what I would really like to do.

15) I rarely make a decision without talking to a close friend first.

16) I put off making many decisions because thinking about them makes me uneasy.

21) I seem to need a lot of encouragement and support from others when I make a decision.

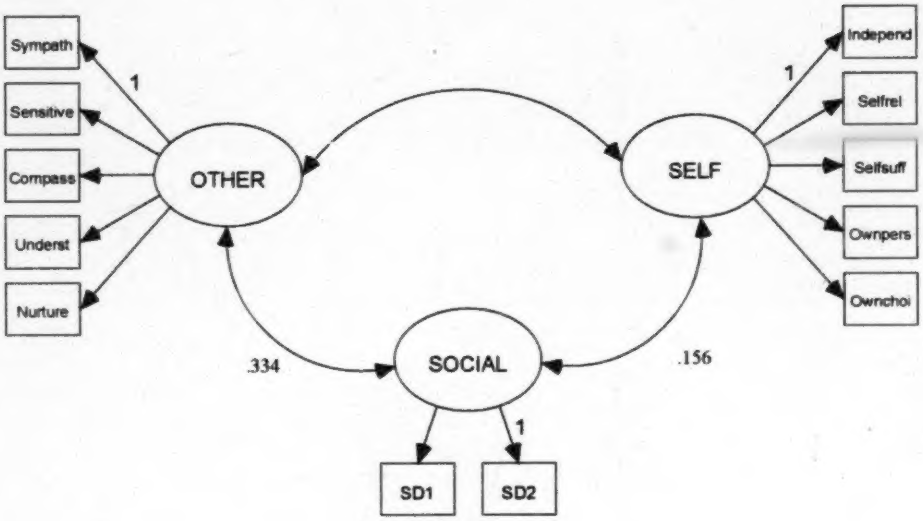
23) There's not much sense in making a decision that is going to make me unpopular.

27) I don't have much confidence in my ability to make good decisions, so I usually rely on others' opinions.

29) I usually don't have a lot of confidence in my decisions unless my friends give me support for them.

APPENDIX 16

Figure 2
Self-orientation, Other-orientation and Social Desirability


Sympath
Sensitive
Compass
Underst
Nurture
1
OTHER
SELF
1
Independ
Selfrel
Selfsuff
Ownpers
Ownchoi
.334
SOCIAL
.156
1
SD1
SD2

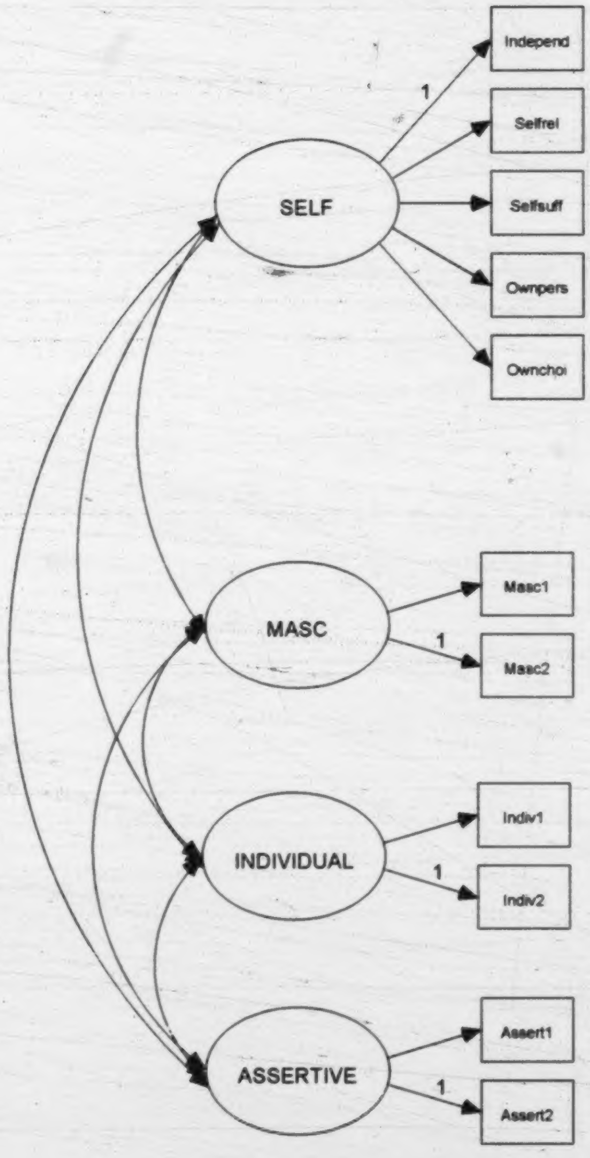
Chi-sq. (49) = 83.03, p = .002

CFI = .977

RMSEA = .051

APPENDIX 17

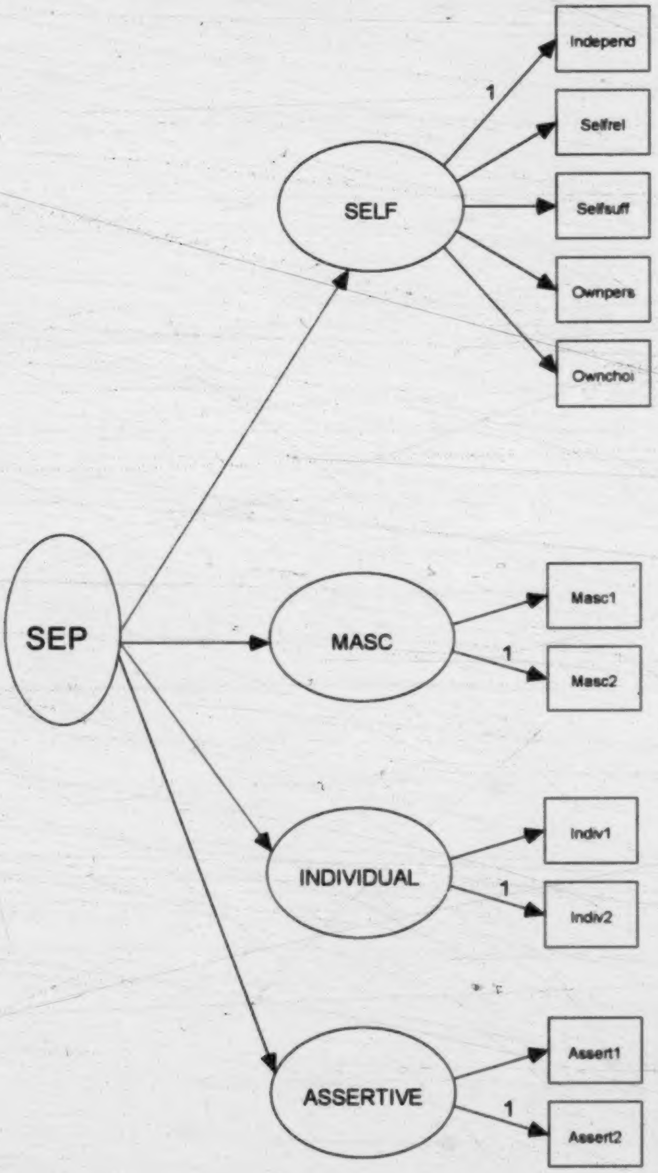
Figure 3
"Separate": Correlated Measures


Independ
1
Selfrel
SELF
Selfsuff
Ownpers
Ownchoi
MASC
Masc1
1
Masc2
INDIVIDUAL
Indiv1
1
Indiv2
ASSERTIVE
Assert1
1
Assert2

Chi-sq. (36) = 89.75, p < .001
CFI = .972
RMSEA = .074

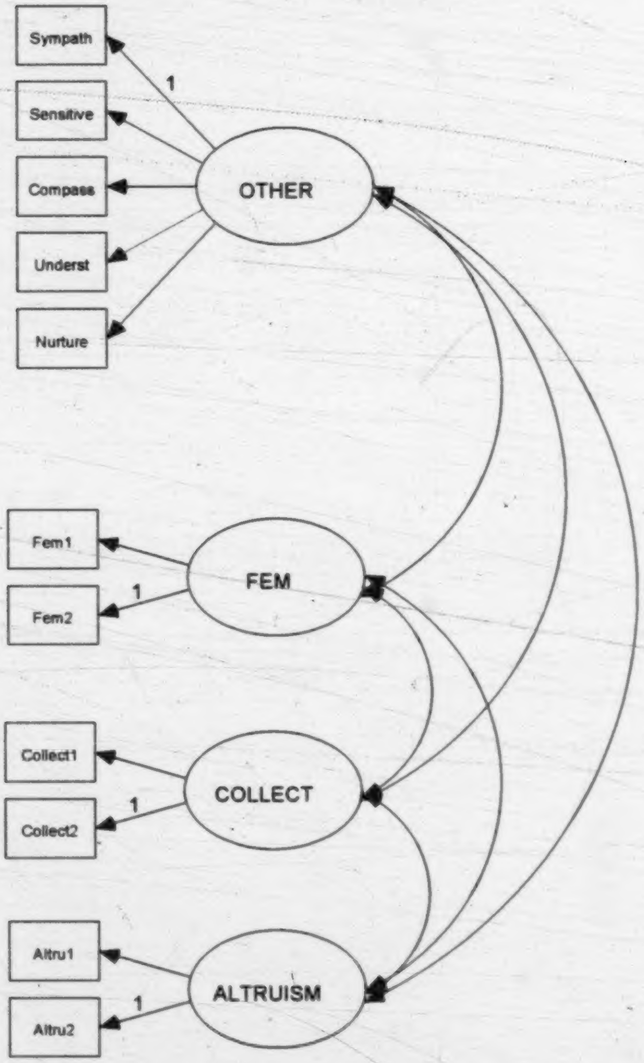
APPENDIX 18

Figure 4
"Separate": One Higher Order Factor


Independ
1
Selfrel
SELF
Selfsuff
Ownpers
Ownchoi
Masc1
SEP
MASC
1
Masc2
Indiv1
INDIVIDUAL
1
Indiv2
Assert1
ASSERTIVE
1
Assert2

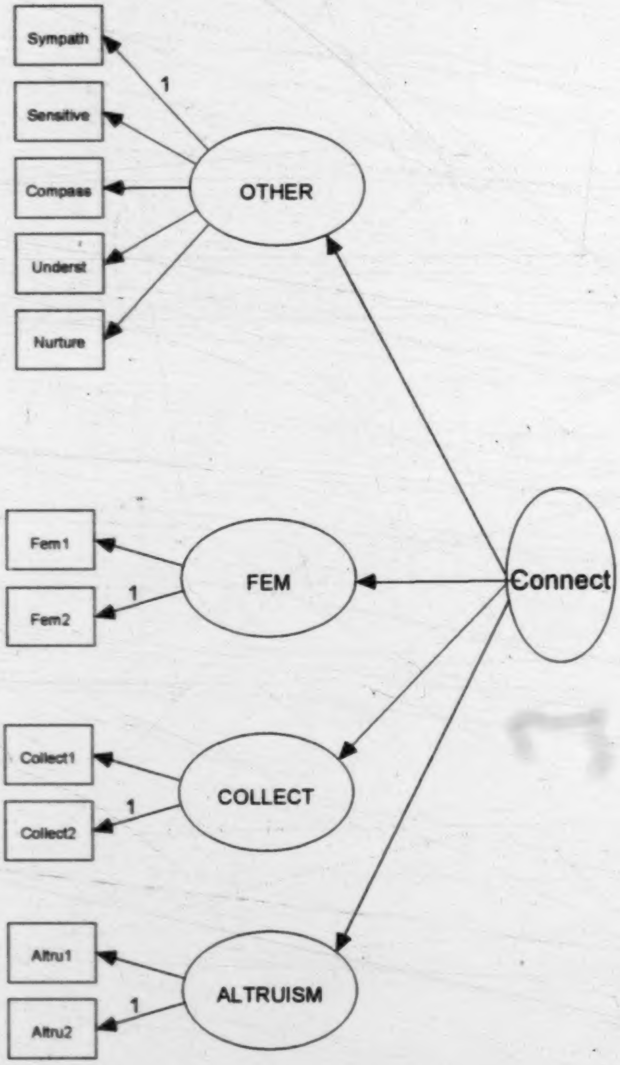
Chi-sq. (38) = 114.72, p < .001
CFI = .960
RMSEA = .086

Figure 5
"Connected": Correlated Measures


Sympath
Sensitive
Compass
Underst
Nurture
1
OTHER
Fem1
Fem2
1
FEM
Collect1
Collect2
1
COLLECT
Altru1
Altru2
1
ALTRUISM

Chi-sq. (38) = 42.05, p = .283
CFI = .998
RMSEA = .021

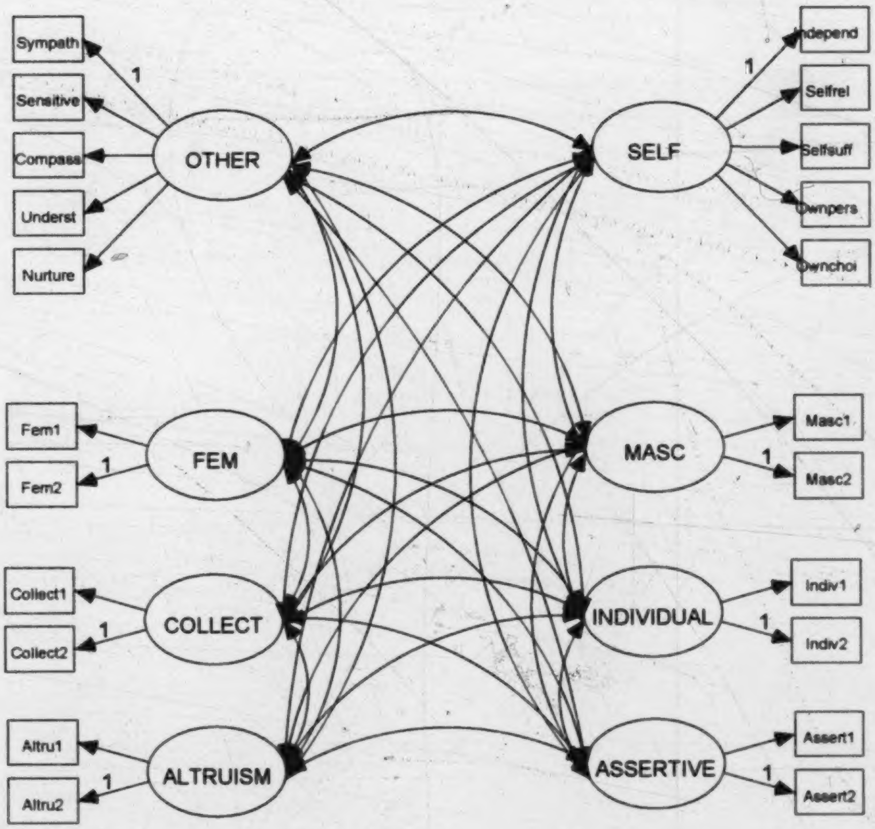
Figure 6
"Connected": One Higher Order Factor


Sympath
1
Sensitive
Compass
OTHER
Underst
Nurture
Fem1
FEM
1
Fem2
Connect
Collect1
COLLECT
1
Collect2
Altru1
ALTRUISM
1
Altru2

Chi-sq. (40) = 43.93, p = .309
CFI = .999
RMSEA = .019

APPENDIX 21

Figure 7
"Separate" – "Connected": Correlated Measures


Sympath
Sensitive
Compass
Underst
Nurture
1
OTHER
Independ
Selfrel
Selfsuff
Ownpers
Ownchoi
1
SELF
Fem1
Fem2
1
FEM
MASC
Masc1
Masc2
1
Collect1
Collect2
1
COLLECT
INDIVIDUAL
Indiv1
Indiv2
1
Altru1
Altru2
1
ALTRUISM
ASSERTIVE
Assert1
Assert2
1

Chi-sq. (180) = 292.89, p < .001

CFI = .977

RMSEA = .048

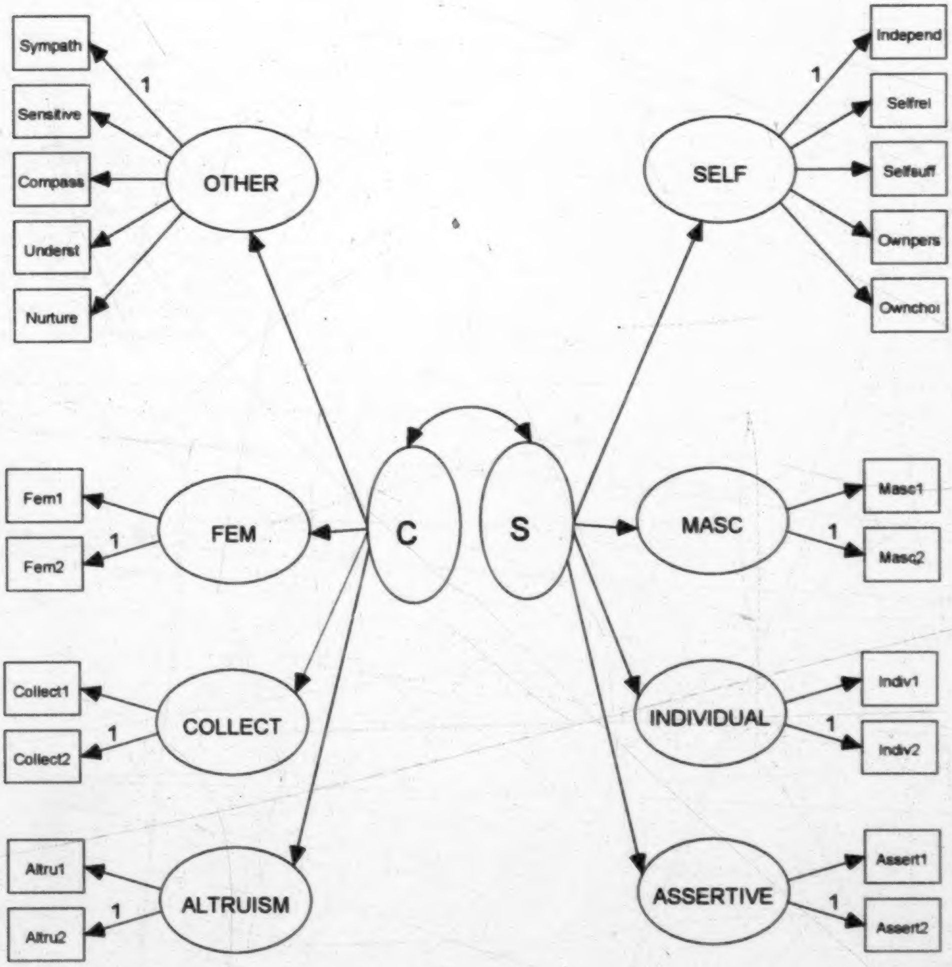
APPENDIX 22

Table 2
Latent Construct Correlations (n = 273)

	Self	Other
PAQ Masculinity	.675	-.057 (ns)
NEO Assertive	.414	.023 (ns)
Individualism	.546	.036 (ns)
PAQ Femininity	-.059 (ns)	.887
NEO Altruism	.069 (ns)	.745
Collectivism	-.043 (ns)	.703

APPENDIX 23

Figure 8
“Separate” – “Connected”: Two Higher Order Factors


Sympath
Sensitive
Compass
Underst
Nurture
1
OTHER
Independ
Selfrel
Selfsuff
Ownpers
Ownchoi
1
SELF
Fem1
Fem2
1
FEM
C
S
MASC
Masc1
Masc2
1
Collect1
Collect2
1
COLLECT
INDIVIDUAL
Indiv1
Indiv2
1
Altru1
Altru2
1
ALTRUISM
ASSERTIVE
Assert1
Assert2
1

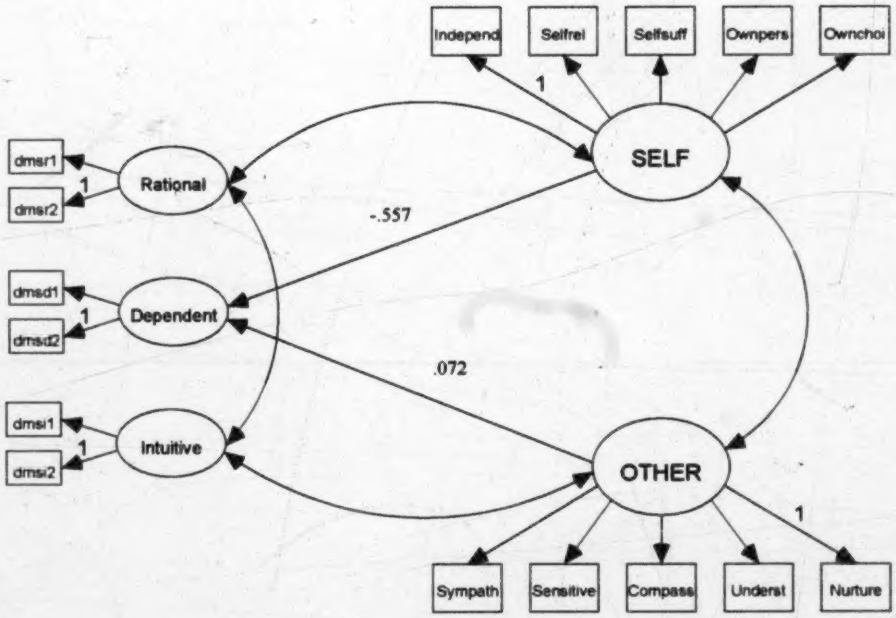
Chi-sq. (198) = 344.65, p < .001

CFI = .970

RMSEA = .052

APPENDIX 24

Figure 9
Self-orientation, Other-orientation and Decision-making Style


Independ
Selfrel
Selfsuff
Ownpers
Ownchoi
1
SELF
dmsr1
1
Rational
dmsr2
-.557
dmsd1
1
Dependent
dmsd2
.072
dmsi1
1
Intuitive
dmsi2
OTHER
1
Sympath
Sensitive
Compass
Underst
Nurture

Chi-sq. (96) = 173.71, p < .001
CFI = .965
RMSEA = .055

APPENDIX 25

Product Category and Brand Pre-tests

1) In your opinion, is it more appropriate for one sex or the other to wear running shoes?
"much more appropriate for a man" (1) to "much more appropriate for a woman" (9)

2) Please indicate your level of knowledge about running shoes.
"no detailed knowledge"(1) to "very detailed knowledge" (9)

3) Please indicate your level of interest in running shoes.
"not at all interested" (1) to "very interested" (9)

4) Please indicate your level of interest in running as a form of exercise.
"not at all interested" (1) and "very interested" (9)

5) Are you at all familiar with the New Balance brand of running shoes?
"not at all familiar" (1) and "very familiar" (9)

6) Do you currently own running shoes? (Yes, No)

7) Do you plan to buy a pair of running shoes in the next six months? (Yes, No)

8) Have you seen other New Balance running shoe ads? (Yes, No, Not Sure)

9) Please use the space below to list anything you know about the features of running shoes.
(This was recorded as a simple feature count. Unless a subject indicated that he/she was unable to list features, a blank space was treated as a missing observation.)

Table 3
T-tests for Gender Differences on Questions 1, 2, 3, 4 and 9

	Mean	*T*	*p*
1	4.82	-.382*	.70
2	5.13	1.315*	.19
3	4.71	-.964*	.34
4	5.24	-.968*	.34
9	3.82	.378**	.71

* t (53)
** t (45)

Table 4
Familiarity with New Balance Brand

Response	Frequency
1	34
2	3
3	0
4	2
5	0
6	5
7	5
8	3
9	3
Total	55

Table 5
Running Shoe Ownership

Response	Frequency
Yes	54
No	1
Total	55

Table 6
Buying Intentions

Response	Frequency
Yes	11
No	44
Total	55

Table 7
Familiarity with New Balance Ads

Response	Frequency
Yes	8
No	34
Not Sure	13
Total	55

APPENDIX 26

Figure 10
New Balance Agentic Advertisement

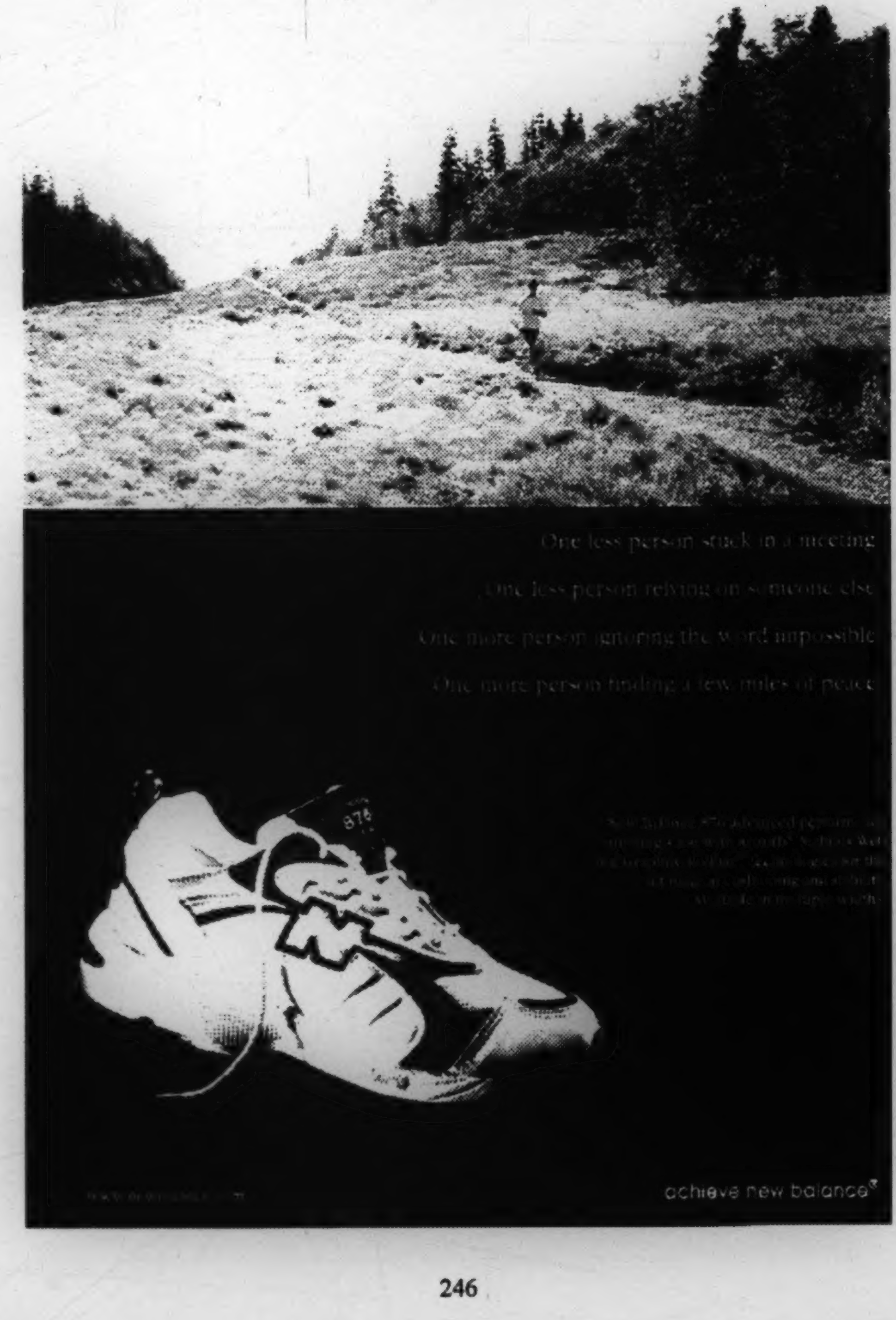

One less person stuck in a meeting
One less person relying on someone else
One more person ignoring the word impossible
One more person finding a few miles of peace
876
achieve new balance®

Figure 11
New Balance Communal Advertisement

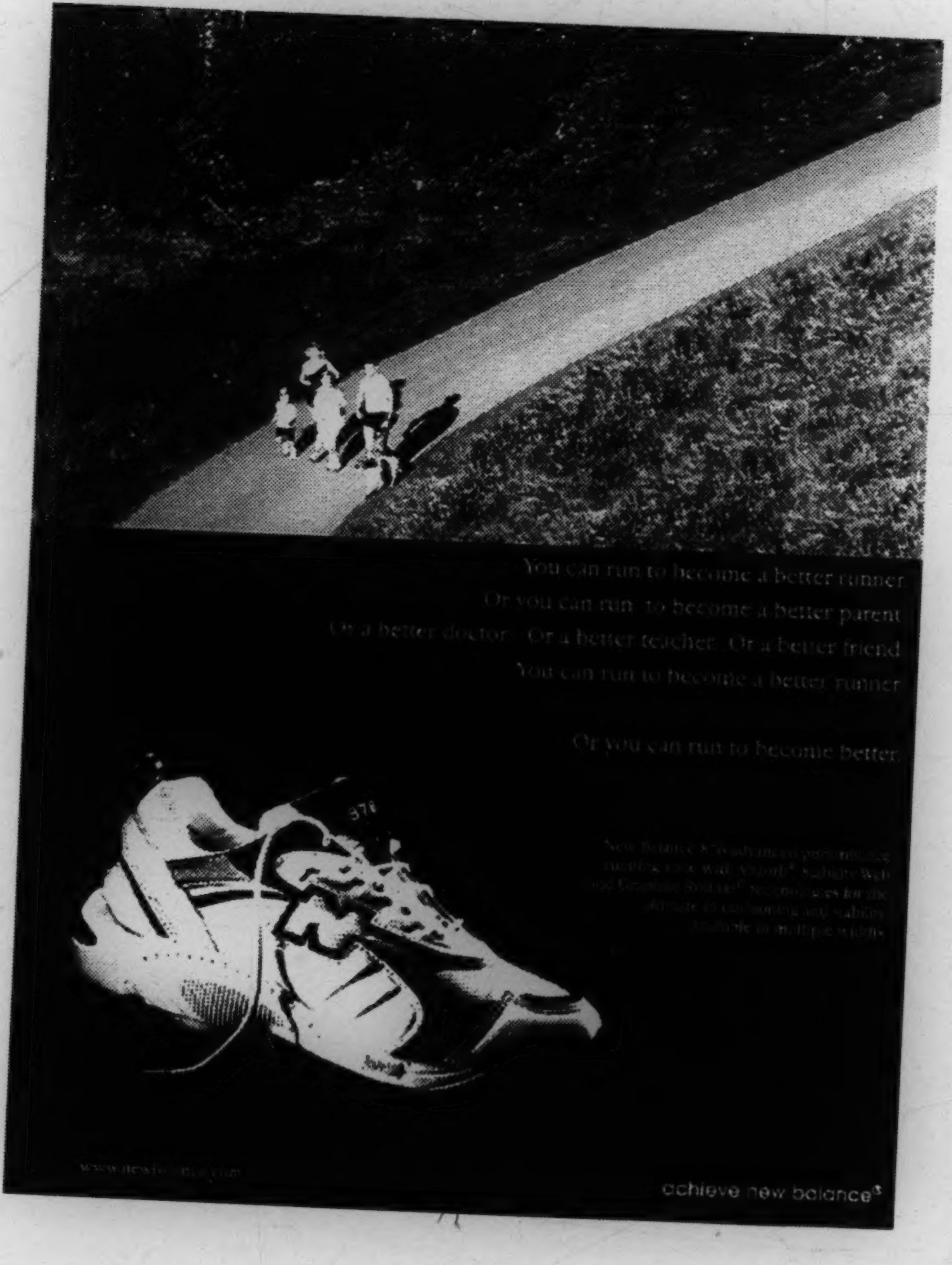

You can run to become a better runner.
Or you can run to become a better parent.
Or a better doctor. Or a better teacher. Or a better friend.
You can run to become a better runner.
Or you can run to become better.
achieve new balance

Figure 12
Breathe Right Nasal Strip Advertisement

Figure 12 has been removed due to copyright restrictions.

Figure 13
Irish Spring Sport Soap Advertisement

Figure 13 has been removed due to copyright restrictions.

Figure 14
Timex Triathlon Watch Advertisement

Figure 14 has been removed due to copyright restrictions.

Figure 15
Power Bar Advertisement

Figure 15 has been removed due to copyright restrictions.

Experimental Stimuli Pre-Tests

1) Attitude toward the ad. These data were collected in response to the question "What is your evaluation of this advertisement?" with three 9-point scales anchored by "not at all appealing" (1) and "very appealing" (9); "not at all persuasive" (1) and "very persuasive" (9); "not at all interesting" (1) and "very interesting" (9). Principal components analysis verified that the three scales formed one component. T-tests computed with the averaged scores determined that no gender differences were present (see Table 8 below.)

2) Identification with the ad. These data were collected in response to the three statements below, with scales anchored by "strongly disagree" (1) and "strongly agree" (9). (See Table 1.)

(a) "I can relate to this ad's message."

(b) "When viewing this ad, I thought about what it would be like to use these running shoes (this watch)."

(c) "I believe this ad was written to appeal to someone with a personality like mine."

Table 8
Principal Components Analysis and T-test Results

	n	Explained Variance	Reliability	Mean	*t* (53)	*p*
Agentic Ad						
Ad Attitude	53	77%	.85	5.47	-1.492	.14
Ad Identification	53	70%	.79	4.73	-.602	.55
Communal Ad						
Ad Attitude	53	87%	.92	5.47	-1.349	.18
Ad Identification	53	82%	.89	4.41	-1.219	.29

3) Message characterization. Subjects responded to the question "How would you characterize the ad's message?" using the following two scales (see Table 9 below.)

(a) "not at all oriented toward needs of the individual" (1) to "very oriented toward needs of the individual" (9)

(b) "not at all oriented toward relationships with others" (1) and "very oriented toward relationships with others" (9)

4) Message projection – agentic orientation. Subjects were asked to "Think of a person characterized by the following personality traits: self-reliant, independent, self-sufficient, makes his/her own choices, is his/her own person. To what extent do you think a person like this would relate to the ad's message?" (See Table 9.)

"would not relate much at all" (1) to "would relate very much" (9)

5) Message projection – communal orientation. "Now think of a person characterized as compassionate, understanding, sensitive to the needs of others, nurturing, and sympathetic. To what extent do you think a person like this would relate to the ad's message?" (See Table 9.)

"would not relate much at all" (1) to "would relate very much" (9)

Table 9
Perceptions of Agentic and Communal Ad Characteristics

	Agentic Ad Mean	**Communal Ad Mean**
3(a)	6.84	5.51
3(b)	4.02	7.11
4	7.17	4.91
5	4.29	6.69

Distracter Task

Please write a definition for each word in the space provided. If you do not know the meaning of the word, make up a definition that you think others would believe. After you write each definition, circle a number on the scale to the right (1, 2, or 3) to indicate how confident you are that your definition is correct.

1 = The word is familiar, I am confident that the definition is correct

2 = The word is somewhat familiar, I am not certain that the definition is correct

3 = The word is unfamiliar, the definition is made up

Flagon ____ 1 2 3

Tarn ____ 1 2 3

Gunnel ____ 1 2 3

Dottle ____ 1 2 3

Claymore ____ 1 2 3

New Balance Recognition Task

Respondents were asked to think about the advertisement for running shoes that they had just seen, and respond either “true” or “false” to the following statements about that advertisement.

1) The brand name of the running shoe is New Balance.

2) A website address is featured.

3) The words in large font placed at the bottom right corner are “Achieve Stability”.

4) There is a close-up photograph of a person running in a race.

5) This running shoe is available in multiple widths.

6) The advertisement says this running shoe has patented Graphite Rollbar technology.

7) The capital letters “NB” are stitched on the side of the running shoe.

8) The advertisement says that this running shoe has patented Cushion-Web to reduce impact.

9) This advertisement suggests that running will help to improve your relationships with others. (*Note: true for the communal ad and false for the agentic ad.*)

10) The advertisement says that this running shoe is “the ultimate in cushioning and stability”.

11) The advertisement says that the running shoe is available in styles for men and women.

12) This advertisement suggests that running is a way to get off on your own, away from pressures in your life. (*Note: true for the agentic ad and false for the communal ad.*)

Timex Recognition Task

Respondents were asked to think about the advertisement for running shoes that they had just seen, and respond either "true" or "false" to the following statements about that advertisement.

1) These watches come in different color combinations.

2) The advertisement says "Don't let anyone else push your buttons."

3) This advertisement features a photograph of a person running off in the distance.

4) These watches have a patented "Glo-light" feature.

5) There are two toll-free numbers featured in this advertisement.

6) The brand name of the watch is Timex.

7) Two of the watches have nylon straps.

8) These watches have a 12-lap memory chronograph.

9) The advertisement describes these watches as "the best in high performance timepieces".

10) These watches are water-resistant.

11) These watches feature a multi-mode countdown timer.

12) The advertisement says that "No one else knows your limits".

APPENDIX 31

Subject Number:________

New Balance Running Shoe Ad

1. Brand name (New Balance)

   Not recalled____ Recalled generally____ Recalled perfectly____

2. Model "876"

   Not recalled____ Recalled generally____ Recalled perfectly____

3. "advanced performance running shoe"

   Not recalled____ Recalled generally____ Recalled perfectly____

4. "Abzorb Stability Web"

   Not recalled____ Recalled generally____ Recalled perfectly____

5. "Graphite Rollbar technology"

   Not recalled____ Recalled generally____ Recalled perfectly____

6. "multiple widths"

   Not recalled____ Recalled generally____ Recalled perfectly____

7. General ad theme Individual theme not conveyed____ Conveyed____

   Relationship theme not conveyed____ Conveyed____

8. Visual element

   No mention____ Individual runner____ Group____

9. Tag line "achieve new balance"

   Not recalled____ Recalled generally____ Recalled perfectly____

APPENDIX 32

Involvement (Zaichowsky 1985)

The following 20 pairs of bipolar adjectives (or statements) are positioned at opposite ends of seven blank spaces. Respondents are asked to place check marks in positions that reflect their judgments about the product. Items marked with asterisks are reverse scored.

1)* Important - Unimportant

2) Of no concern to me – Of concern to me

3) Irrelevant – Relevant

4)* Means a lot to me – Means nothing to me

5) Useless – Useful

6)* Valuable – Worthless

7) Trivial – Fundamental

8)* Beneficial – Not beneficial

9)* Matters to me – Doesn't matter

10) Uninterested – Interested

11)* Significant – Insignificant

12)* Vital – Superfluous

13) Boring – Interesting

14) Unexciting – Exciting

15)* Appealing – Unappealing

16) Mundane – Fascinating

17) Essential – Nonessential

18) Undesirable – Desirable

19) Wanted – Unwanted

20) Not needed – Needed

APPENDIX 33

Need for Cognition (Cacioppo and Petty 1982)

Respondents use the scale below to indicate their degree of agreement or disagreement with 34 statements. Items marked with an asterisk are reverse scored.

-4 = very strong disagreement
-3 = strong disagreement
-2 = moderate disagreement
-1 = slight disagreement
0 = neither agreement nor disagreement
1 = slight agreement
2 = moderate agreement
3 = strong agreement
4 = very strong agreement

1) I really enjoy a task that involves coming up with new solutions to problems.

2) I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

3) I tend to set goals that can be accomplished only by expending considerable mental effort.

4) I am usually tempted to put more thought into a task than the job minimally requires.

5)* Learning new ways to think doesn't excite me very much.

6)* I am hesitant about making important decisions after thinking about them.

7) I usually end up deliberating about issues even when they do not affect me personally.

8)* I prefer just to let things happen rather than try to understand why they turned out that way.

9)* I have difficulty thinking in new and unfamiliar situations.

10)* The idea of relying on thought to make my way to the top does not appeal to me.

11)* The notion of thinking abstractly is not appealing to me.

12) I am an intellectual.

13)* I only think as hard as I have to.

14)* I don't reason well under pressure.

15)* I like tasks that require little thought once I've learned them.

16)* I prefer to think about small, daily projects to long-term ones.

17)* I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

18)* I find little satisfaction in deliberating hard and for long hours.

19) I more often talk with other people about the reasons for and possible solutions to international problems than about gossip or tidbits about what famous people are doing.

20)* These days, I see little chance for performing well, even in "intellectual" jobs, unless one knows the right people.

21)* More often than not, more thinking just leads to more errors.

22)* I don't like to have the responsibility of handling a situation that requires a lot of thinking.

23) I appreciate opportunities to discover the strengths and weaknesses of my own reasoning.

24)* I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

25)* Thinking is not my idea of fun.

26)* I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.

27) I prefer watching educational to entertainment programs.

28) I think best when those around me are very intelligent.

29) I prefer my life to be filled with puzzles that I must solve.

30) I would prefer complex to simple problems.

31)* Simply knowing the answer rather than understanding the reasons for the answer to a problem is fine with me.

32)* It's enough for me that something gets the job done; I don't care how or why it works.

33)* Ignorance is bliss.

34) I enjoy thinking about an issue even when the results of my thought will have no effect on the outcome of the issue.

APPENDIX 34

Self-Monitoring (Snyder and Gangestad 1986)

Subjects respond either true or false to 18 statements.

1) I find it hard to imitate the behavior of other people.

2) At parties and social gatherings, I do not attempt to do or say things that others will like.

3) I can only argue for ideas which I already believe.

4) I can make impromptu speeches even on topics about which I have almost no information.

5) I guess I put on a show to impress or entertain others.

6) I would probably make a good actor.

7) In a group of people I am rarely the centre of attention.

8) In different situations and with different people, I often act like very different persons.

9) I am not particularly good at making other people like me.

10) I'm not always the person I appear to be.

11) I would not change my opinions (or the way I do things) in order to please someone or win their favour.

12) I have considered being an entertainer.

13) I have never been good at games like charades or improvisational acting.

14) I have trouble changing my behavior to suit different people and different surroundings.

15) At a party I let others keep the jokes and stories going.

16) I feel a bit awkward in public and do not show up quite as well as I should.

17) I can look anyone in the eye and tell a lie with a straight face (if for a right end).

18) I may deceive people by being friendly when I really dislike them.

Table 10
Brand Familiarity

Score	Frequency	Percent
1	454	61.4
2	54	7.3
3	30	4.1
4	14	1.9
5	21	2.8
6	27	3.6
7	42	5.7
8	38	5.1
9	34	4.6
Missing	26	3.5
Total	714	100.0

“Before today, were you at all familiar with the New Balance brand of running shoes?”

Table 11
Manipulation Check

	"Individual"					"Relationship"				
	n	Mean	Min	Max	Std. Dev.	n	Mean	Min	Max	Std. Dev.
Agentic Ad	258	6.31	1.00	9.00	2.09	258	4.34	1.00	9.00	2.30
Communal Ad	246	4.49	1.00	9.00	2.41	246	5.52	1.00	9.00	2.45

Agentic Ad

The message in the advertisement for running shoes that you saw today was: "*One less person stuck in a meeting. One less person relying on someone else. One more person ignoring the word impossible. One more person finding a few miles of peace.*" How would you characterize this message?

> "not at all oriented toward needs of the individual" (1) to "very oriented toward needs of the individual" (9)
>
> "not at all oriented toward relationships with others" (1) to "very oriented toward relationships with others" (9)

Communal Ad

The message in the advertisement for running shoes that you saw today was: "*You can run to become a better runner. Or you can run to become a better parent. Or a better doctor. Or a better teacher. Or a better friend. You can run to become a better runner. Or you can run to become better.*" How would you characterize this message?

> "not at all oriented toward needs of the individual" (1) to "very oriented toward needs of the individual" (9)
>
> "not at all oriented toward relationships with others" (1) to "very oriented toward relationships with others" (9)

APPENDIX 37

Figure 16
Covariate Correlations

	AGE	MAR	CHI	INC	KNO	INT	INV
MAR	.33**						
CHI	.45**	.42**					
INC	.49**	.18**	.30**				
KNO	.01	.00	-.03	.05			
INT	-.06	.05	.01	.02	.57**		
INV	-.05	.01	-.01	-.01	.50**	.48**	
OWN	.11*	.02	.03	.07	-.19**	-.22**	-.23**
BUY	.03	-.02	-.05	-.08	-.24**	-.24**	-.29**
NFC	-.04	-.02	.13**	.00	-.05	-.06	-.09
SM	-.12*	-.10*	-.04	.07	.14**	.09*	.03
RAT	.01	-.11*	.04	-.01	.11*	.11*	.09
INTU	-.03	.00	.02	.02	.07	.03	-.02
DEP	-.17*	-.10*	-.08	-.22**	-.08	-.04	.02

	OWN	BUY	NFC	SM	RAT	INT
BUY	.12**					
NFC	.03	.04				
SM	-.01	-.09	-.10*			
RAT	-.05	-.02	-.05	-.07		
INT	.07	-.05	-.15**	.21**	-.29**	
DEP	-.01	.08	.38**	-.06	.09*	.00

MAR	marital status
CHI	number of children
INC	income
KNO	knowledge about running shoes

INT	interest in running as a form of exercise
INV	involvement in the product category
OWN	running shoe ownership
BUY	intention to purchase within the next six months
NFC	Need for Cognition
SM	Self-Monitoring
RAT	Rational Decision-making Style
INTU	Intuitive Decision-making Style
DEP	Dependent Decision-making style

* $p < .05$
** $p < .01$

Table 12
Sex of Subject

	Frequency	Percent
Male	161	31.9
Female	343	68.1
Total	504	100.0

Table 13
Running Shoe Ownership

	Frequency	Percent
Owns	461	91.5
Does not own	43	8.5
Total	504	100.0

Table 14
Buying Intentions

	Frequency	Percent
Plan to buy	172	34.1
Do not plan to buy	332	65.9
Total	504	100.0

Table 15
Familiarity with New Balance Brand

Brand Familiarity	Frequency	Percent
1	424	84.1
2	52	10.3
3	28	5.6
Total	504	100.0

Table 16
Descriptive Statistics: Individual Difference Variables

	n	Reliability	Mean	Min	Max	Std. Dev.
Self	504	.83	7.30	1.80	9.00	4.49E-02
Other	504	.85	7.13	2.80	9.00	4.88E-02
SM	488	.73	9.98	1.00	18.00	3.58
NFC	483	.65	-9.08	-72.00	65.00	18.84
RAT	495	.85	4.77	1.90	7.00	.91
INT	498	.64	3.94	2.10	6.50	.74
DEP	498	.84	3.46	1.20	6.10	1.00
M/A	504		-5.31E-04	-.68	11.30	1.00
LIFE	437		5.38E-17	-2.18	2.43	1.00

SM	Self-Monitoring
NFC	Need for Cognition
RAT	Rational Decision-making Style
INT	Intuitive Decision-making Style
DEP	Dependent Decision-making Style
M/A	Motivation/Ability (factor score)
LIFE	Life Cycle Stage (factor score)

Figure 17
Histogram: Self-Orientation

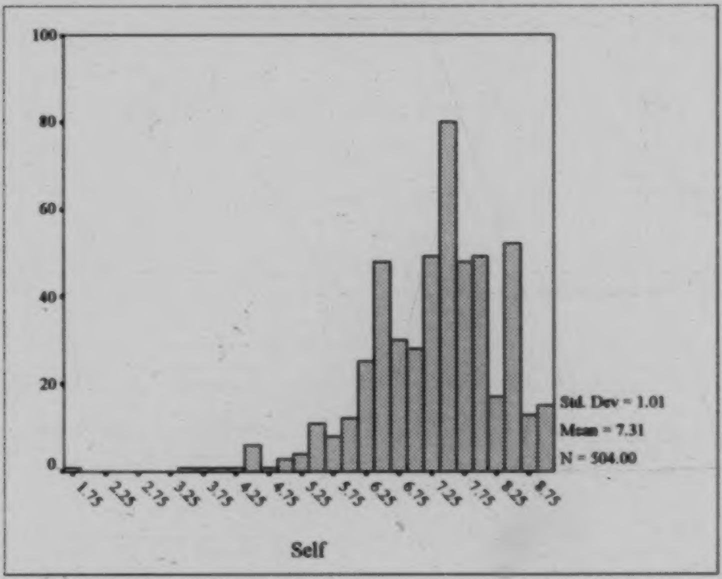


Figure 18
Histogram: Other-orientation

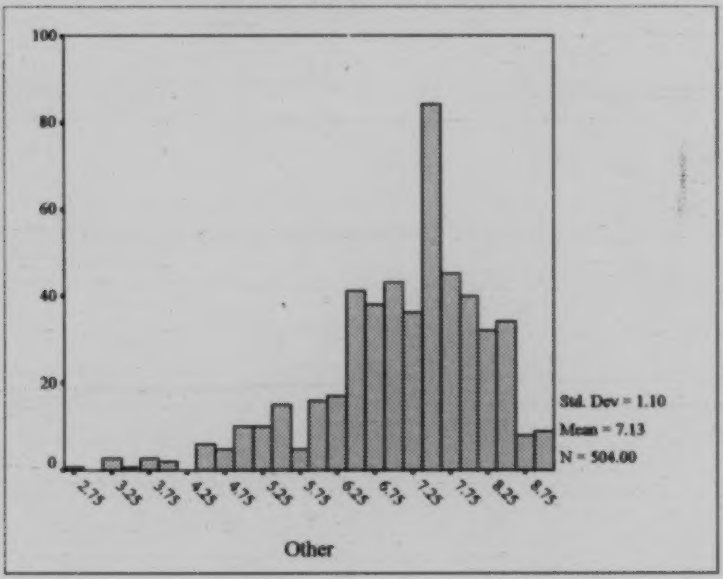


Figure 19
Histogram: Self-Monitoring

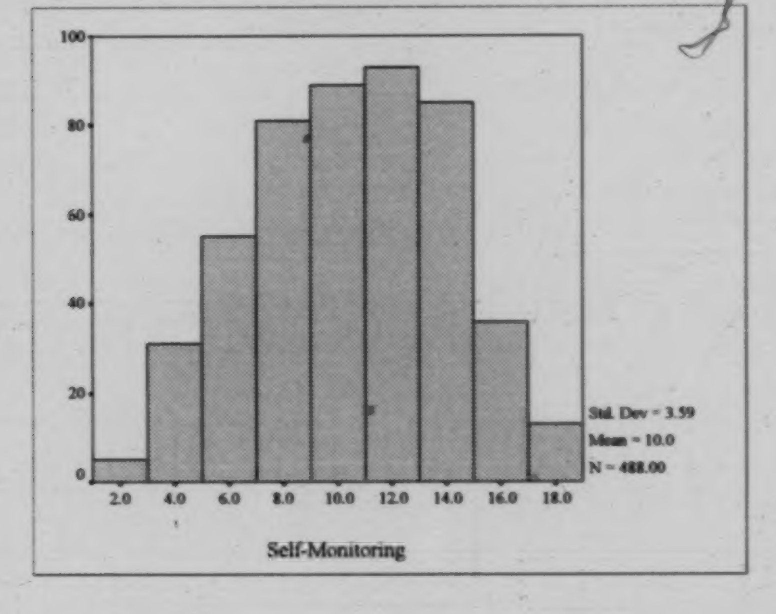


Figure 20
Histogram: Need for Cognition

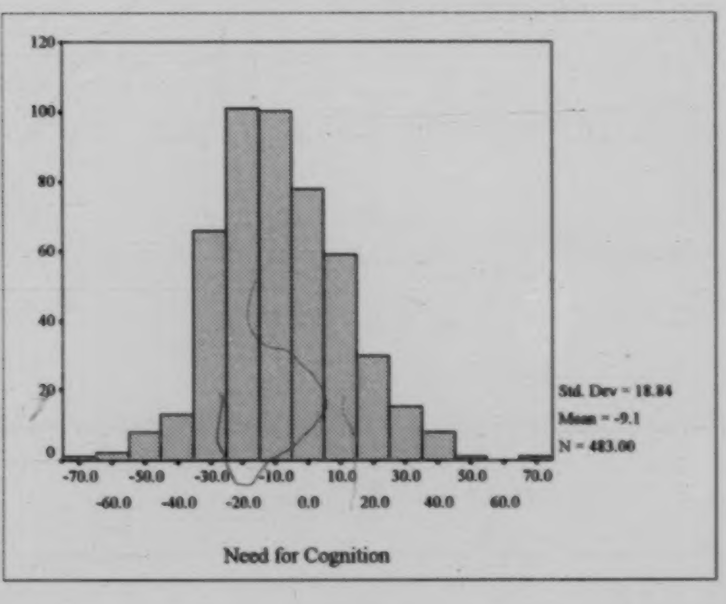


Figure 21
Histogram: Rational Decision-Making Style

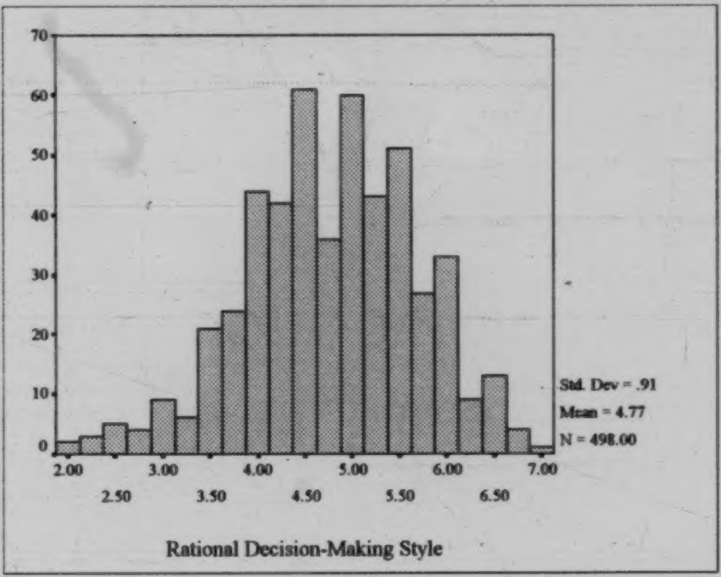


Figure 22
Histogram: Intuitive Decision-Making Style

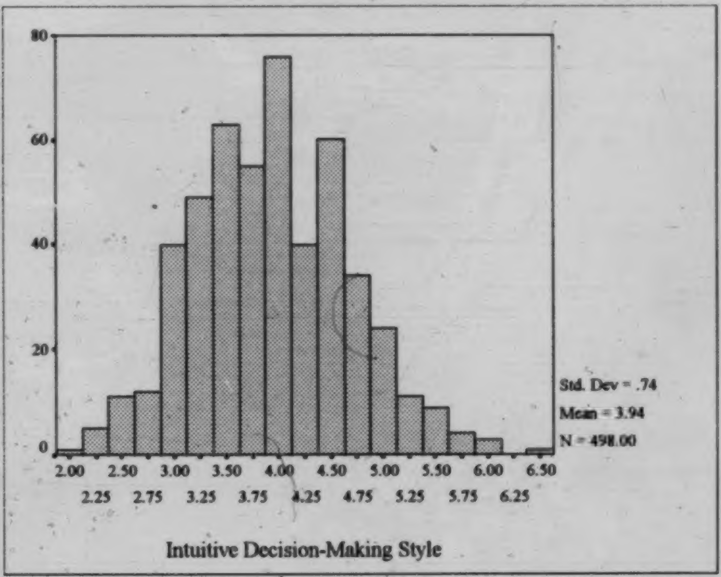


Figure 23
Histogram: Dependent Decision-Making Style

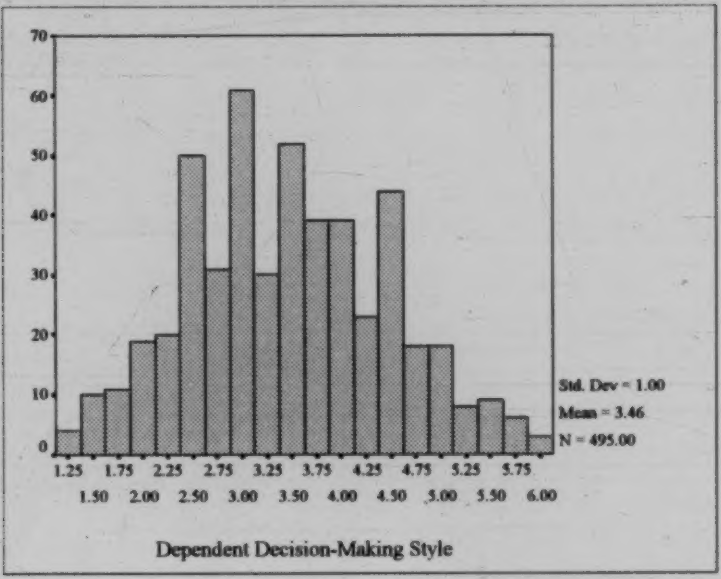


Figure 24
Histogram: Family Life Cycle

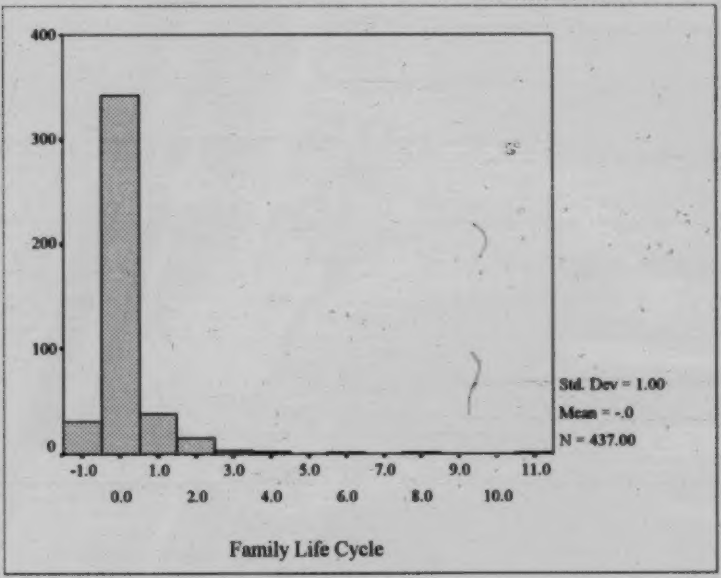


Figure 25
Histogram: Motivation and Ability

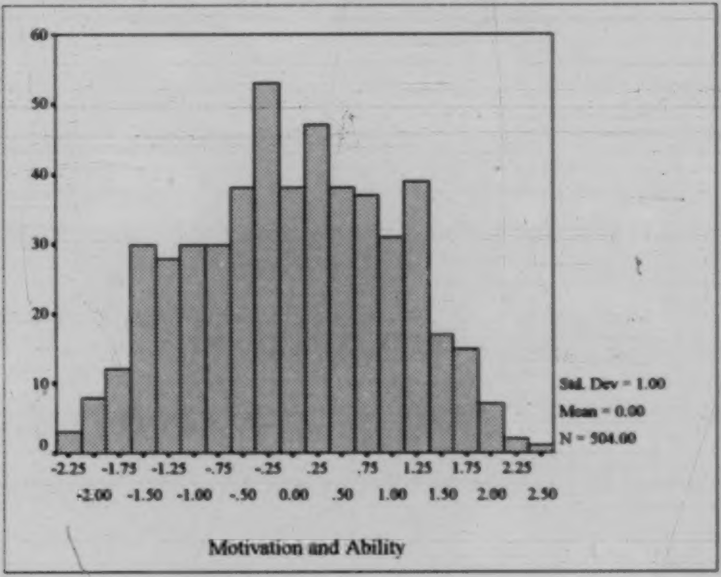


Table 17
Principal Components Analysis: New Balance Dependent Measures

	n	Explained Variance	Reliability
Ad Attitude	504	85%	.91
Brand Attitude	504	78%	.86
Ad Identification	504	74%	.82
Intentions	504	74%	.82

Table 18
Principal Components Analysis: Timex Dependent Measures

	n	Explained Variance	Reliability
Ad Attitude	503	85%	.91
Brand Attitude	502	73%	.81
Ad Identification	502	74%	.82
Intentions	502	58%	.61

APPENDIX 41

Figure 26
Histogram: New Balance Ad Attitude

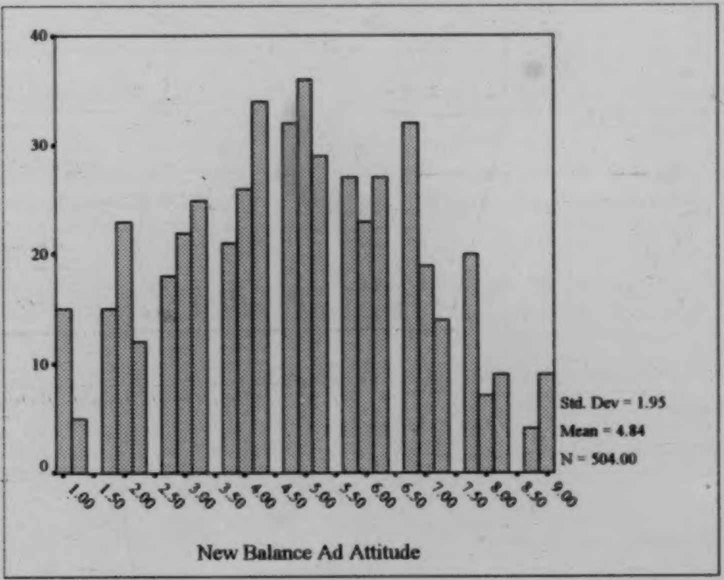


Figure 27
Histogram: New Balance Brand Attitude

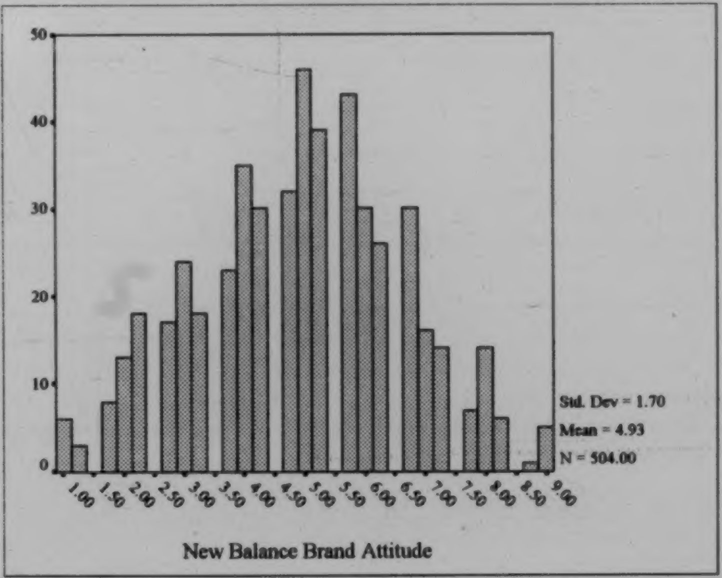


Figure 28
Histogram: New Balance Ad Identification

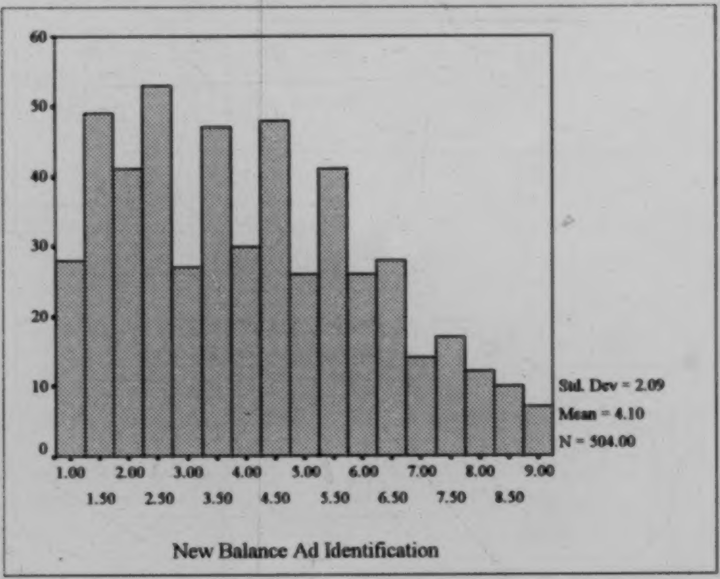


Figure 29
Histogram: New Balance Intentions (log)

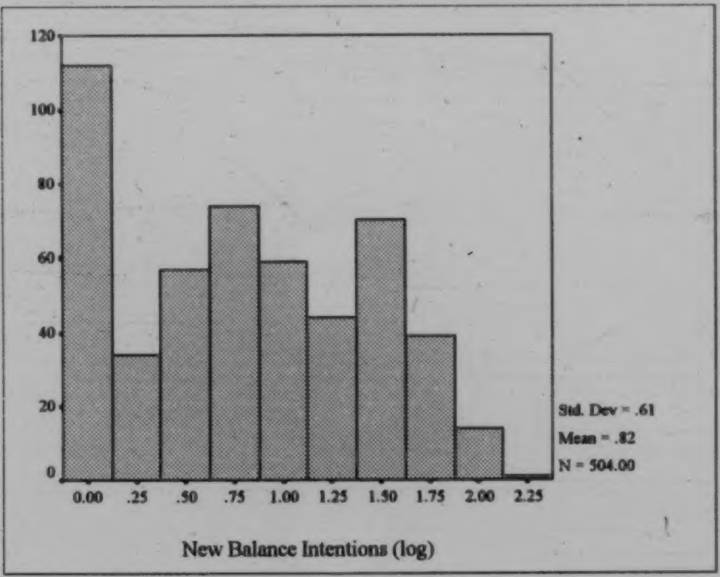


Figure 30
Histogram: Timex Ad Attitude

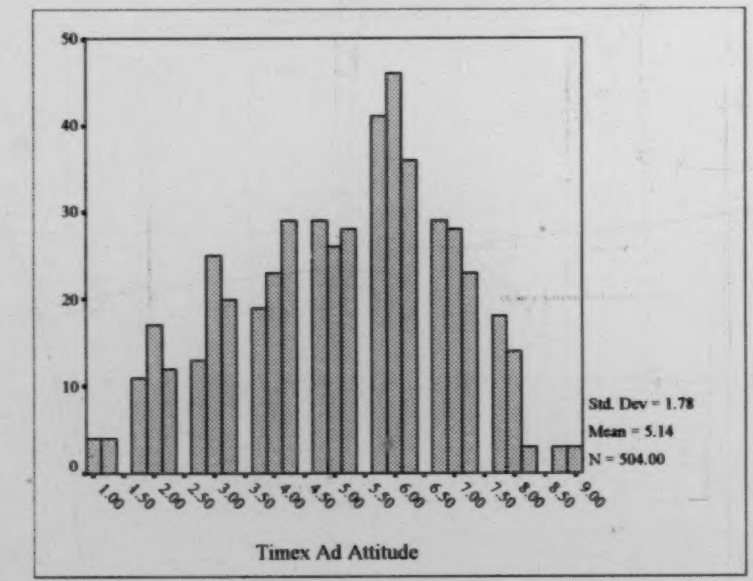


Figure 31
Histogram: Timex Brand Attitude

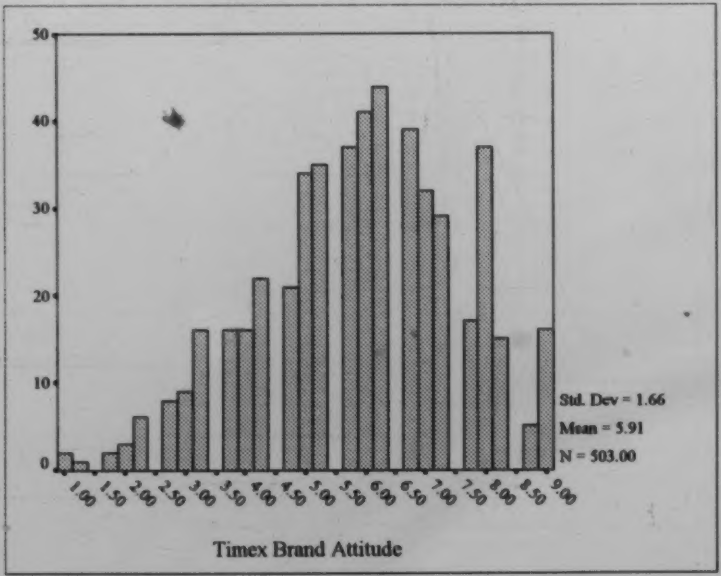


Figure 32
Histogram: Timex Ad Identification

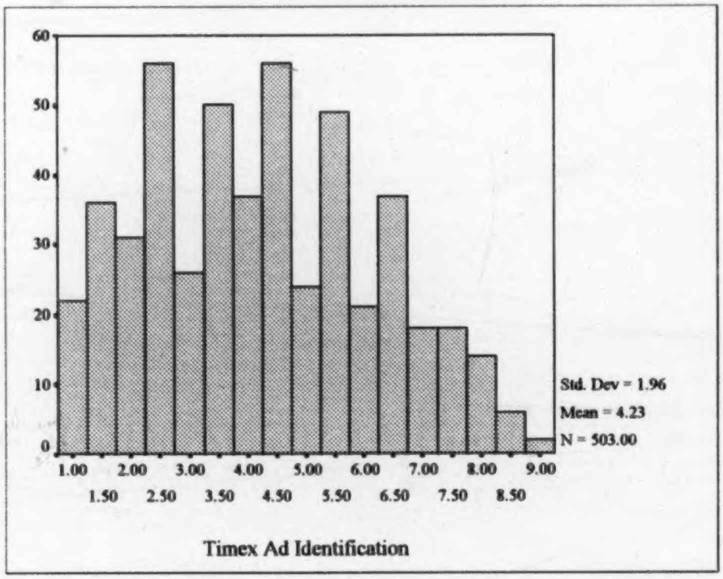
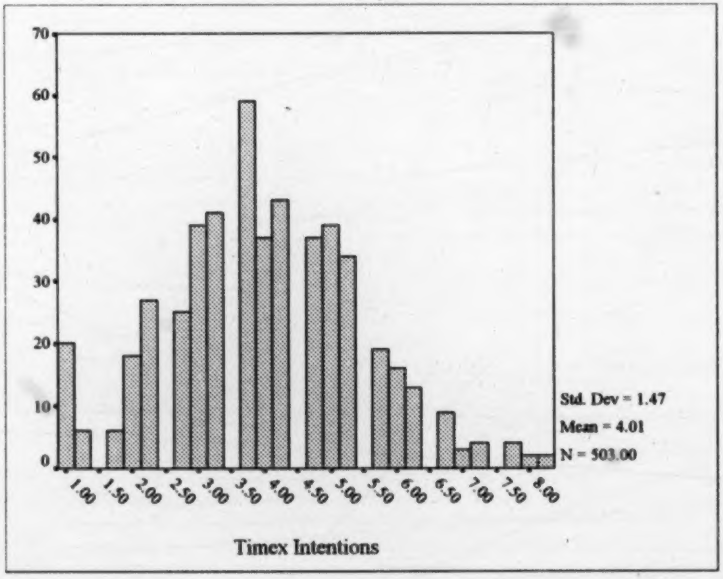


Figure 33
Histogram: Timex Intentions



APPENDIX 43

Table 19
Recall Frequencies By Ad Type

Information	Not Recalled	Recalled Generally	Recalled Perfectly
Agentic Ad (n = 258)			
New Balance (brand name)	238	2	18
Model ‘876’	258	0	0
Advanced performance running shoe	257	1	0
Abzorb Stability Web	244	14	0
Graphite Rollbar technology	252	6	0
Multiple widths	239	1	18
“achieve new balance” (tag line)	253	5	0
Ad Theme: individual	116		142
Visual element: individual runner	67		191
Communal Ad (n = 246)			
New Balance (brand name)	239	3	4
Model ‘876’	245	0	1
Advanced performance running shoe	243	3	0
Abzorb Stability Web	229	17	0
Graphite Rollbar technology	235	10	1
Multiple widths	239	0	7
“achieve new balance” (tag line)	244	2	0
Ad Theme: individual	59		187
Ad Theme: relationship	133		113
Visual element: group	71		175

APPENDIX 44

Figure 34
Histogram: New Balance Discrimination

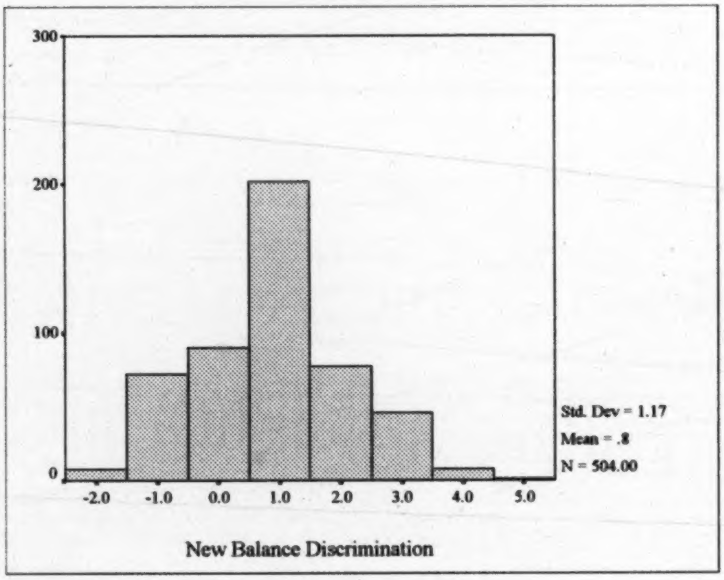


Figure 35
Histogram: New Balance Recall

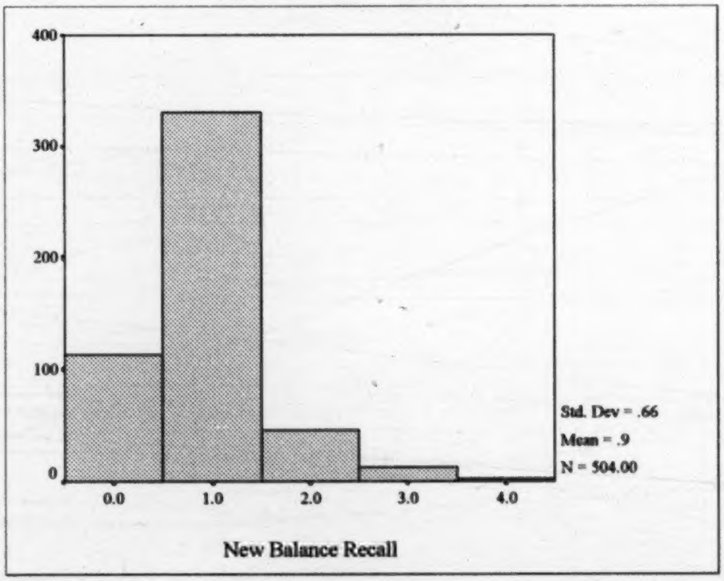


Figure 36
Histogram: Timex Memory Dependent Measure

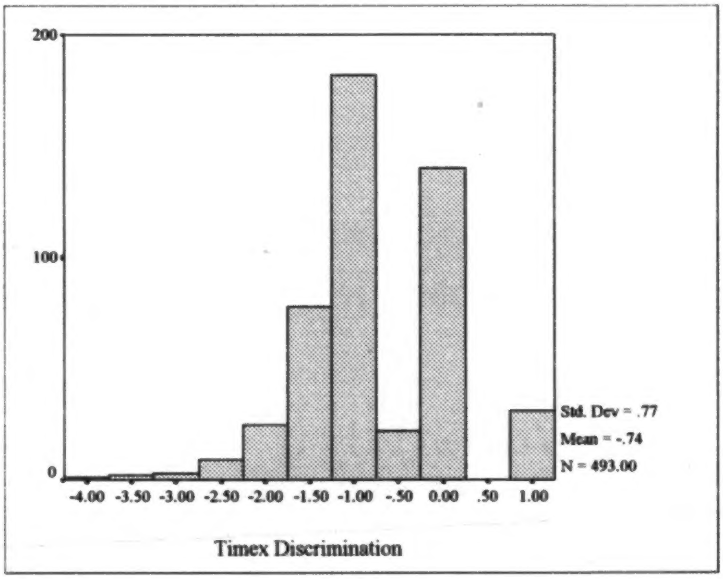


Table 20
Self Levels

Level	Score	Frequency	Percent
1 - Low	1.80-6.80	153	30.4
2 - Moderate	7.00-7.80	205	40.7
3 - High	8.00-9.00	146	29.0
Total		504	100.0

Table 21
Other Levels

Level	Score	Frequency	Percent
1 - Low	2.80-6.60	135	26.8
2 - Moderate	6.80-7.60	201	39.9
3 - High	7.60-9.00	168	33.3
Total		504	100.0

Table 22
Factorial Design

Message	Self	Other	N
Agentic	Low	Low	22
		Moderate	30
		High	26
	Moderate	Low	29
		Moderate	50
		High	37
	High	Low	16
		Moderate	22
		High	26
Communal	Low	Low	24
		Moderate	33
		High	18
	Moderate	Low	21
		Moderate	40
		High	28
	High	Low	23
		Moderate	26
		High	33

Figure 37
Correlations Among Factors

	Message	Self
Self	.054	
Other	-.026	.075

APPENDIX 47

Figure 38
Correlations Among Covariates and New Balance Dependent Measures

	Ad Attitude	Brand Attitude	Ad Identification	Intentions (log)	Memory: Discrimination	Memory: Recall
OWN	-.13**	-.09*	-.08	-.09*	.00	.04
BUY	-.09*	-.10*	-.13**	-.12**	-.05	-.01
NFC	-.09*	-.04	-.03	-.00	-.06	-.07
SM	.00	.01	-.02	-.01	-.03	.07
RAT	.20**	.19**	.20**	.15**	.03	-.06
INT	-.02	-.02	-.03	.02	.02	.01
DEP	.01	.11*	.05	.09*	-.01	.01
LIFE	-.02	-.03	-.02	-.04	-.11*	-.03
M/A	.24**	.27**	.33**	.31**	.01	-.01

NFC	Need for Cognition
SM	Self-Monitoring
RAT	Rational Decision-making Style
INT	Intuitive Decision-making Style
DEP	Dependent Decision-making Style
LIFE	Life Cycle Stage (factor score)
M/A	Motivation/Ability (factor score)

* $p < .05$
* $p < .01$

APPENDIX 48

Table 23
Multivariate Analysis of Covariance:
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Self By Other	*(s = 4, m = -½, n = 236½)*							
	Wilk's	.92490	2.34849	16.00	1451.79	.002	.019	.990
Self by Other	*(s = 4, m = -½, n = 236½)*							
	Wilk's	.98510	.44709	16.00	1451.79	.970	.004	.310
Message By Other	*(s = 2, m = ½, n = 236½)*							
	Wilk's	.98460	.92531	8.00	950.00	.494	.008	.439
Message By Self	*(s = 2, m = ½, n = 236½)*							
	Wilk's	.98538	.87761	8.00	950.00	.535	.007	.416
Other	*(s = 2, m = ½, n = 236½)*							
	Wilk's	.94850	3.18136	8.00	950.00	.001	.026	.969
Self	*(s = 2, m = ½, n = 236½)*							
	Wilk's	.95945	2.48340	8.00	950.00	.011	.020	.908
Message	*(s = 1, m = 1, n = 236½)*							
	Wilk's	.93875	7.74867	4.00	475.00	.000	.061	.998

Table 24
Multivariate Analysis of Variance:
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Effect	Test	Value	*F*	Hypoth. *Df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Self By Other	*(s = 4, m = -½, n = 240½)*							
	Wilk's	.92523	2.37700	16.00	1476.00	.002	.019	.991
Self by Other	*(s = 4, m = -½, n = 240½)*							
	Wilk's	.98449	.47328	16.00	1476.00	.960	.004	.330
Message By Other	*(s = 2, m = ½, n = 240½)*							
	Wilk's	.98020	1.21370	8.00	966.00	.287	.010	.569
Message By Self	*(s = 2, m = ½, n = 240½)*							
	Wilk's	.98197	1.10325	8.00	966.00	.358	.009	.521
Other	*(s = 2, m = ½, n = 240½)*							
	Wilk's	.93208	4.32197	8.00	966.00	.000	.034	.996
Self	*(s = 2, m = ½, n = 240½)*							
	Wilk's	.96326	2.28094	8.00	966.00	.020	.018	.878
Message	*(s = 1, m = 1, n = 240½)*							
	Wilk's	.94576	6.92477	4.00	483.00	.000	.054	.994

APPENDIX 49

Figure 39
Residuals Histogram: New Balance Ad Attitude

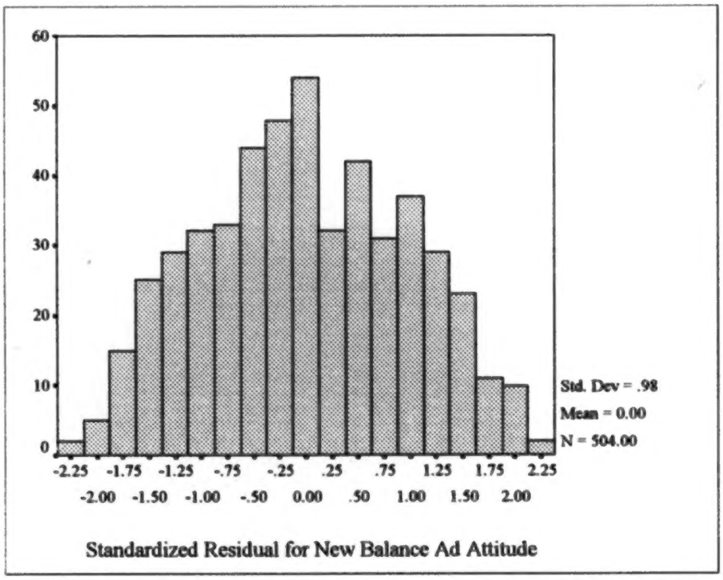


Figure 40
Residuals Histogram: New Balance Brand Attitude

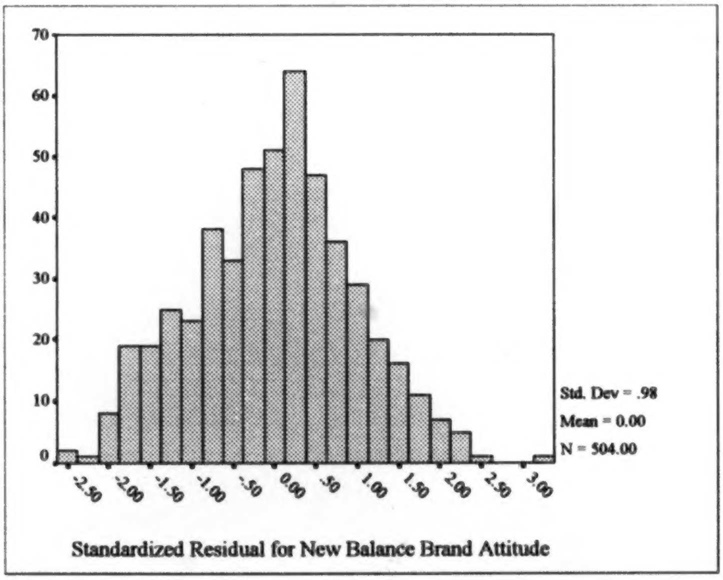


Figure 41
Residuals Histogram: New Balance Ad Identification

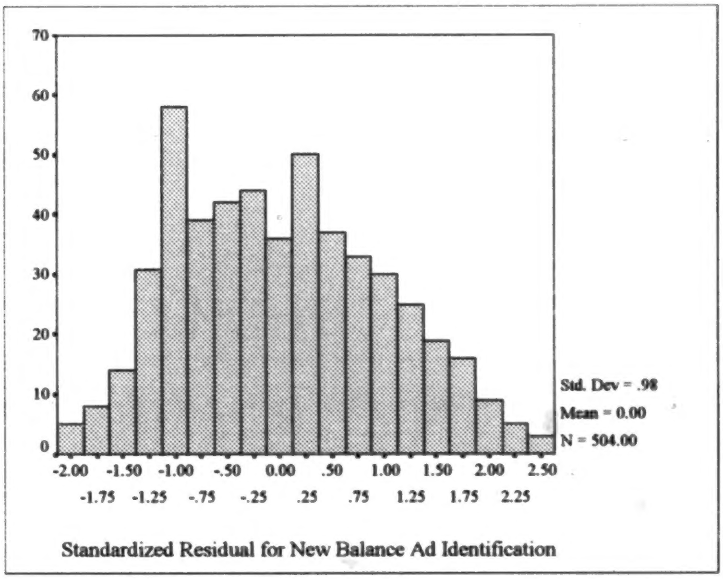


Figure 42
Residuals Histogram: New Balance Intentions (log)

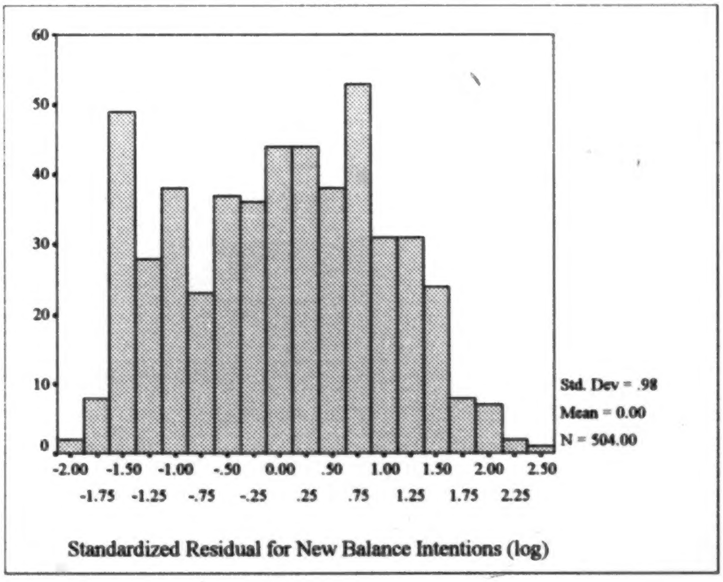


Figure 43
Predicted vs. Standardized Residuals: New Balance Ad Attitude

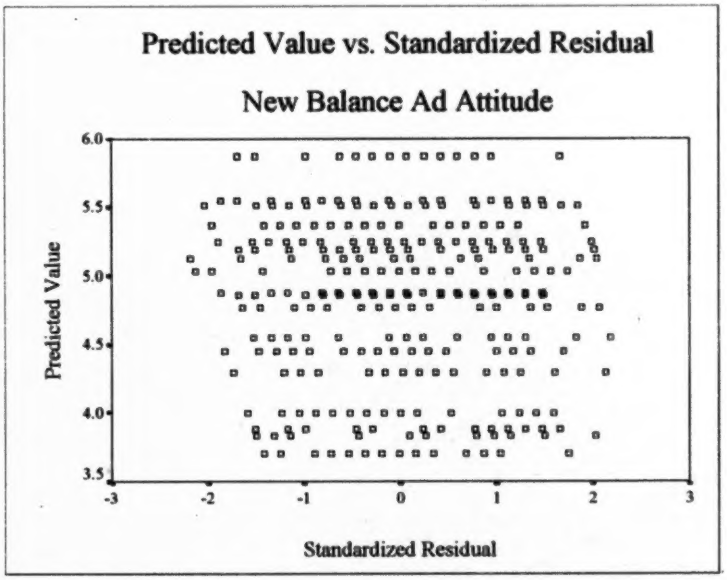


Figure 44
Predicted vs. Standardized Residuals: New Balance Brand Attitude

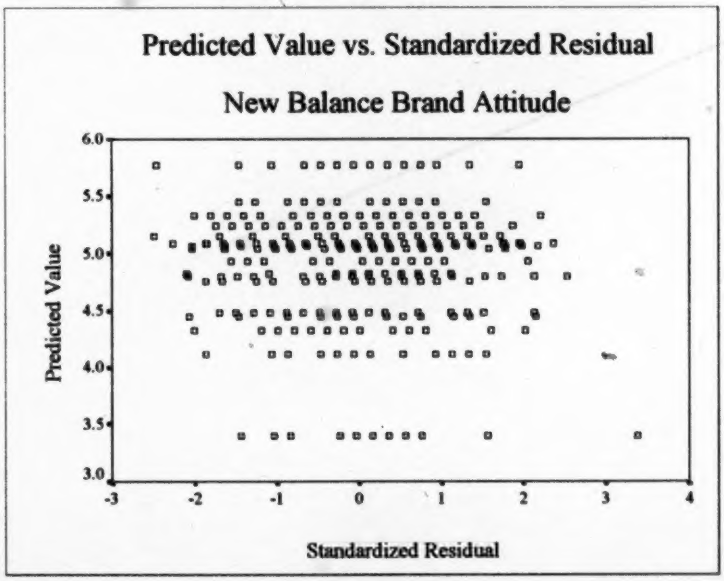


Figure 45
Predicted vs. Standardized Residuals: New Balance Ad Identification

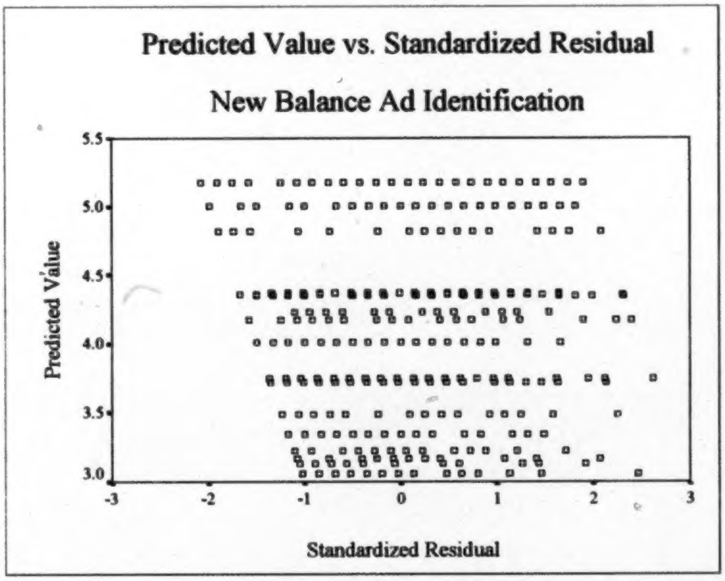


Figure 46
Predicted vs. Standardized Residuals: New Balance Intentions (log)

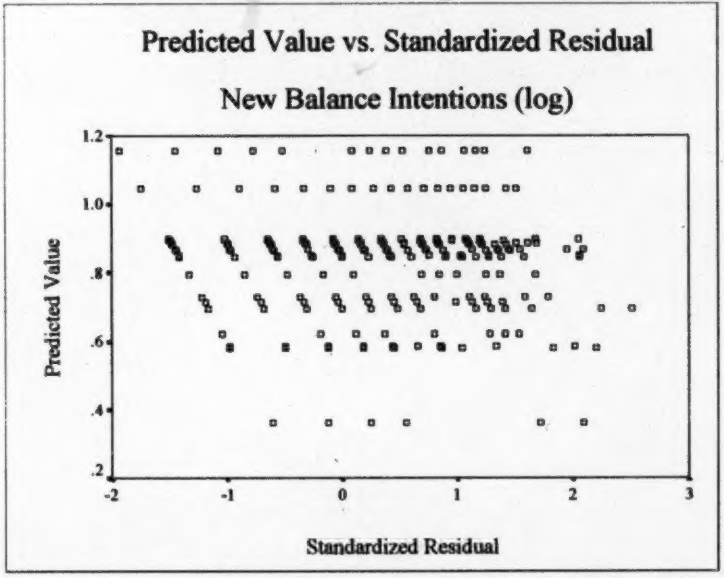


Figure 47
Spread vs. Level: New Balance Ad Attitude

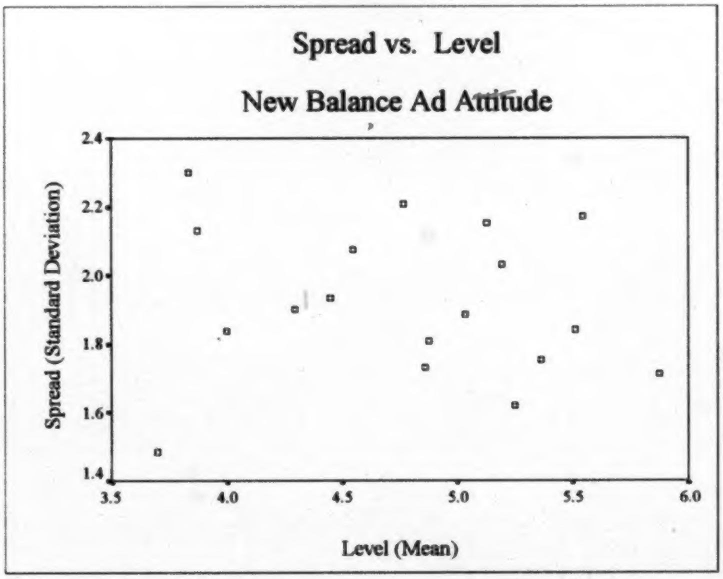


Figure 48
Spread vs. Level: New Balance Brand Attitude

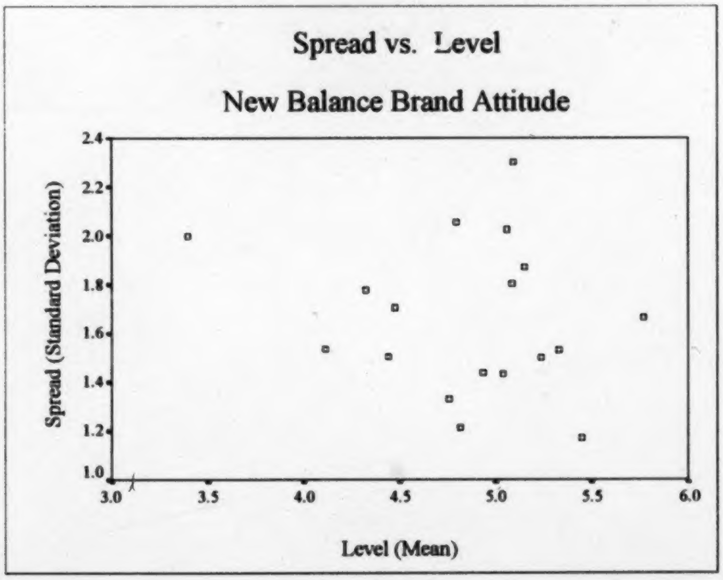


Figure 49
Spread vs. Level: New Balance Ad Identification

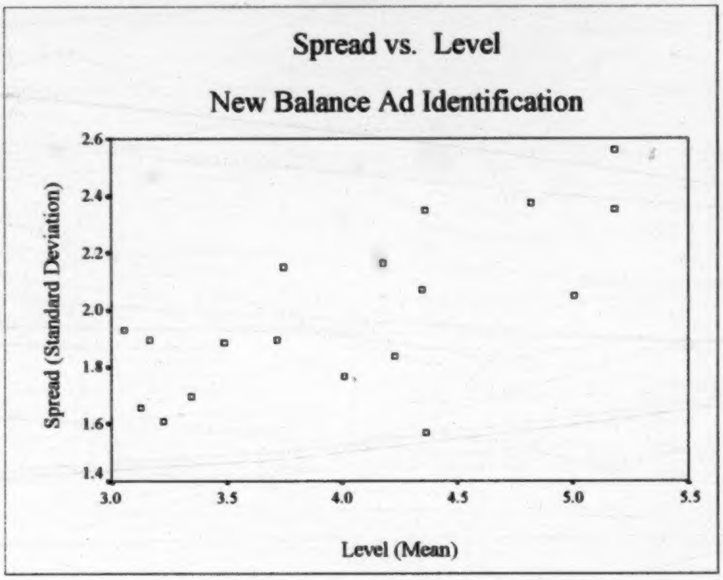
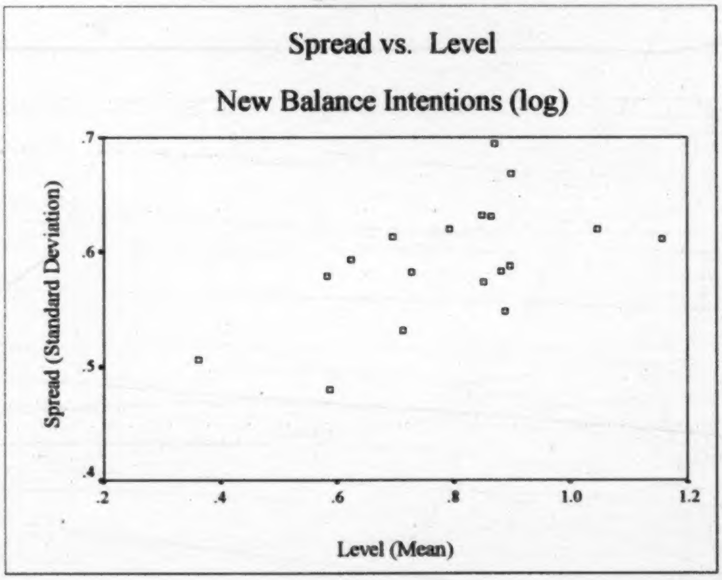


Figure 50
Spread vs. Level: New Balance Intentions (log)



APPENDIX 52

New Balance Dependent Measures by Cell

Table 25
Ad Attitude

Message	Self	Other	Cell Mean	Std. Dev.	N
Agentic	Low	Low	4.545	2.077	22
		Moderate	4.878	1.808	30
		High	5.872	1.713	26
	Moderate	Low	4.448	1.932	29
		Moderate	5.247	1.620	50
		High	5.514	1.840	37
	High	Low	3.833	2.300	16
		Moderate	5.545	2.171	22
		High	5.192	2.031	26
Communal	Low	Low	3.875	2.133	24
		Moderate	4.000	1.839	33
		High	5.130	2.155	18
	Moderate	Low	3.698	1.483	21
		Moderate	4.858	1.729	40
		High	5.036	1.886	28
	High	Low	4.768	2.208	23
		Moderate	4.295	1.900	26
		High	5.364	1.755	33

Table 26
Brand Attitude

Message	Self	Other	Cell Mean	Std. Dev.	N
Agentic	Low	Low	4.439	1.506	22
		Moderate	5.444	1.172	30
		High	5.769	1.662	26
	Moderate	Low	4.931	1.438	29
		Moderate	5.327	1.530	50
		High	5.234	1.499	37
	High	Low	3.396	2.001	16
		Moderate	5.152	1.871	22
		High	5.090	2.303	26
Communal	Low	Low	4.319	1.779	24
		Moderate	4.758	1.331	33
		High	4.815	1.211	18
	Moderate	Low	4.111	1.536	21
		Moderate	5.042	1.433	40
		High	5.083	1.804	28
	High	Low	5.058	2.027	23
		Moderate	4.474	1.703	26
		High	4.798	2.056	33

Table 27
Ad Identification

Message	Self	Other	Cell Mean	Std. Dev.	n
Agentic	Low	Low	4.227	1.836	22
		Moderate	4.367	1.569	30
		High	5.179	2.354	26
	Moderate	Low	4.011	1.765	29
		Moderate	5.007	2.048	50
		High	4.351	2.073	37
	High	Low	3.167	1.893	16
		Moderate	4.818	2.377	22
		High	5.179	2.558	26
Communal	Low	Low	3.056	1.930	24
		Moderate	3.343	1.695	33
		High	3.222	1.609	18
	Moderate	Low	3.127	1.655	21
		Moderate	3.717	1.895	40
		High	4.179	2.165	28
	High	Low	4.362	2.348	23
		Moderate	3.487	1.884	26
		High	3.747	2.151	33

Table 28
Intentions (log)

Message	Self	Other	Cell Mean	Std. Dev.	n
Agentic	Low	Low	.851	.573	22
		Moderate	.882	.583	30
		High	1.156	.610	26
	Moderate	Low	.728	.582	29
		Moderate	1.046	.619	50
		High	.987	.588	37
	High	Low	.362	.506	16
		Moderate	.864	.630	22
		High	.871	.694	26
Communal	Low	Low	.584	.578	24
		Moderate	.888	.548	33
		High	.624	.593	18
	Moderate	Low	.713	.531	21
		Moderate	.849	.632	40
		High	.898	.669	28
	High	Low	.794	.620	23
		Moderate	.587	.480	26
		High	.696	.613	33

Figure 51
Other by Self at Agentic Message Level: Ad Attitude

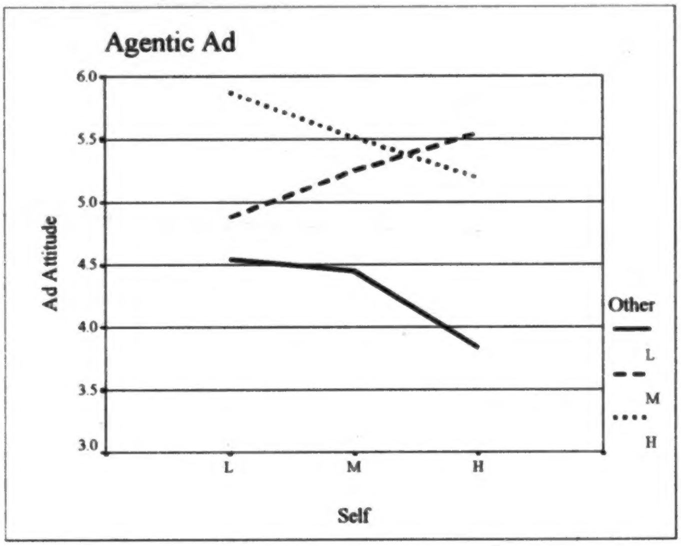


Figure 52
Other by Self at Communal Message Level: Ad Attitude

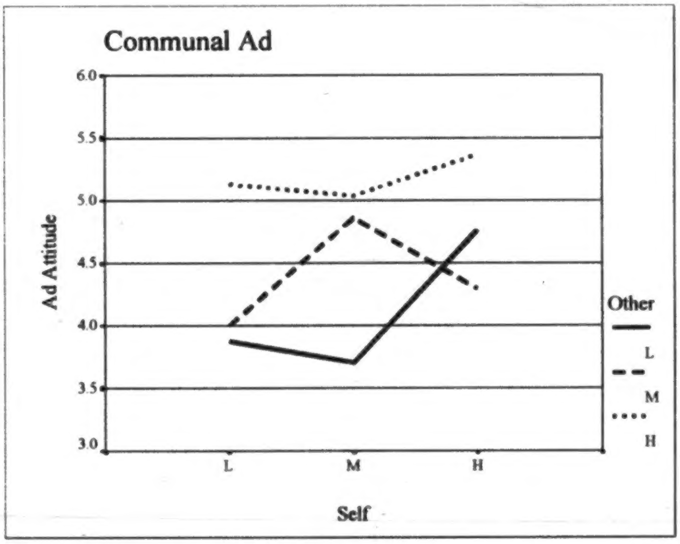


Figure 53
Other by Self at Agentic Message Level: Brand Attitude

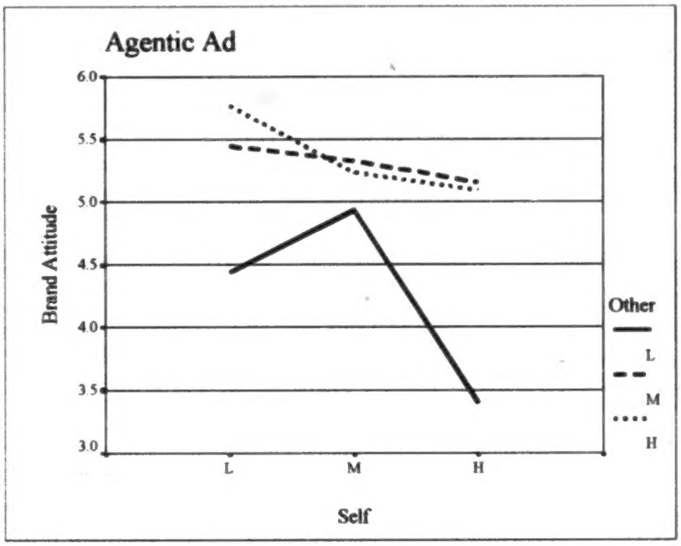


Figure 54
Other by Self at Communal Message Level: Brand Attitude

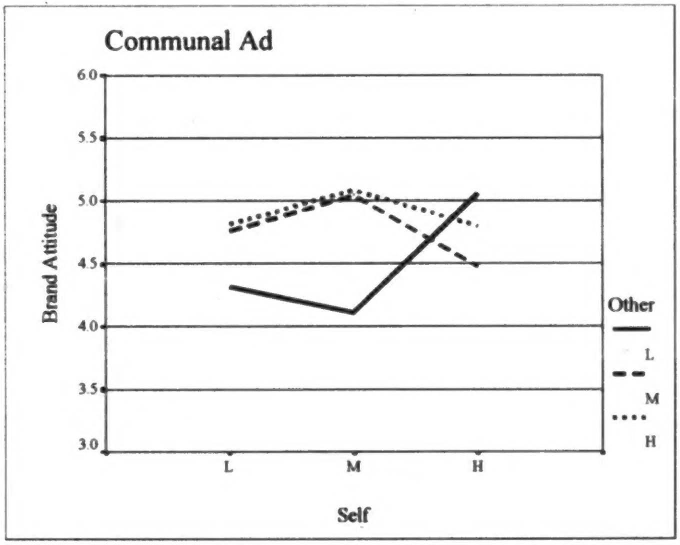


Figure 55
Other by Self at Agentic Message Level: Ad Identification

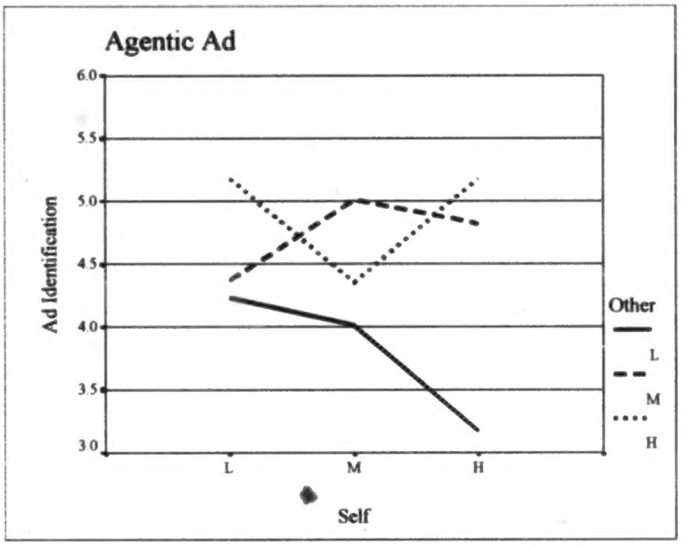


Figure 56
Other by Self at Communal Message Level: Ad Identification

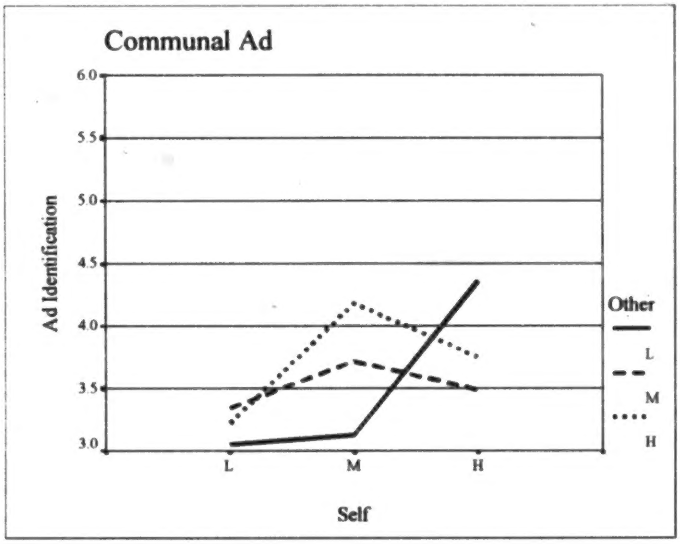


Figure 57
Other by Self at Agentic Message Level: Intentions (log)

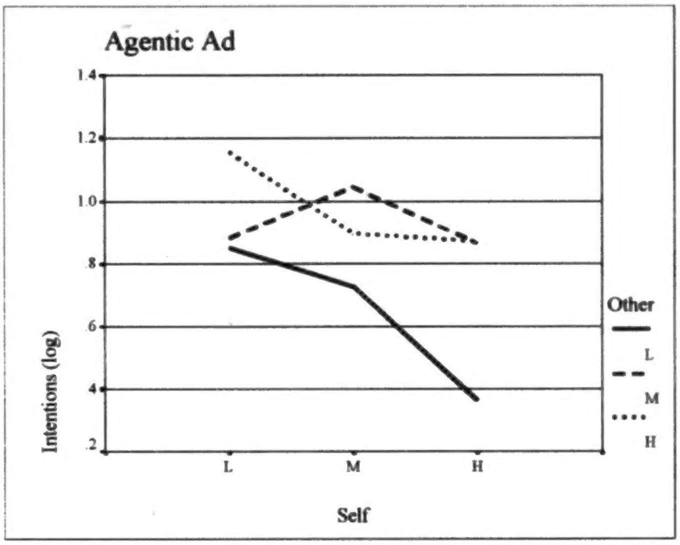


Figure 58
Other by Self at Communal Message Level: Intentions (log)

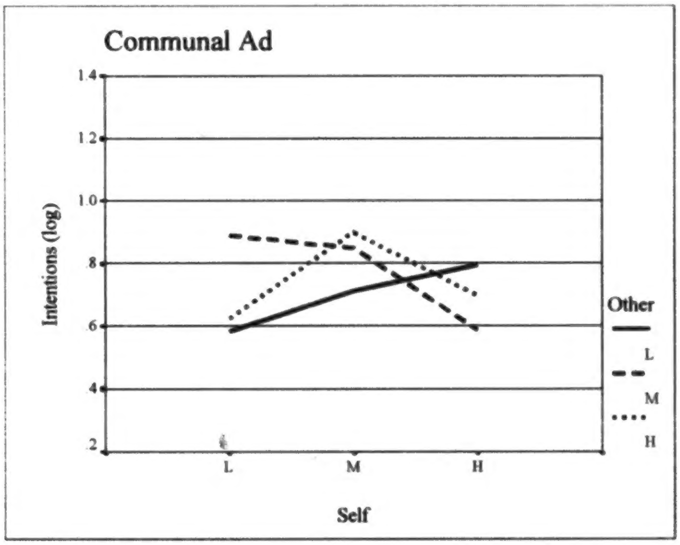


Figure 59
Message by Other at Low Self: Ad Attitude

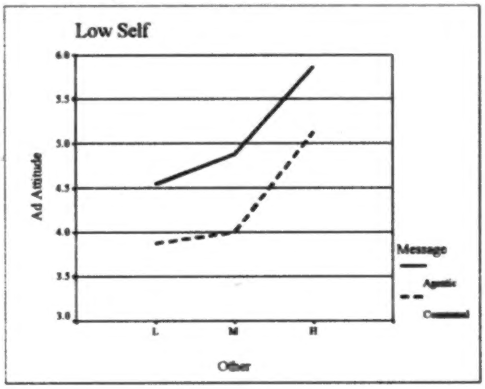


Figure 60
Message by Other at Moderate Self: Ad Attitude

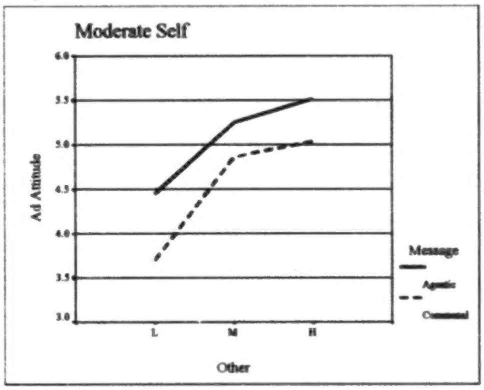


Figure 61
Message by Other at High Self: Ad Attitude

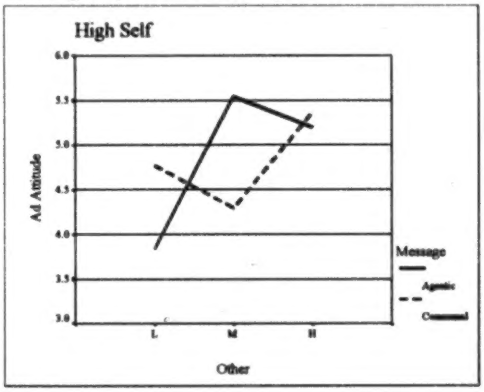


Figure 62
Message by Other at Low Self: Brand Attitude

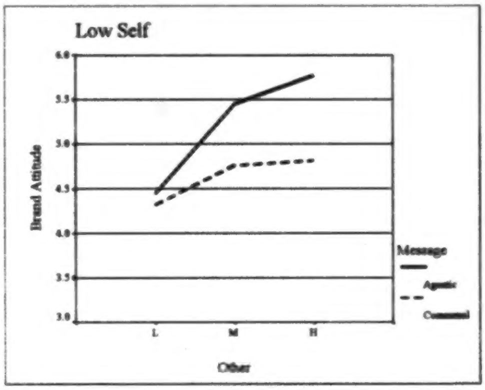


Figure 63
Message by Other at Moderate Self: Brand Attitude

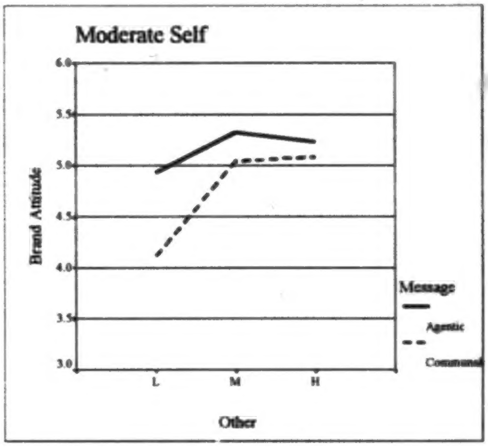


Figure 64
Message by Other at High Self: Brand Attitude

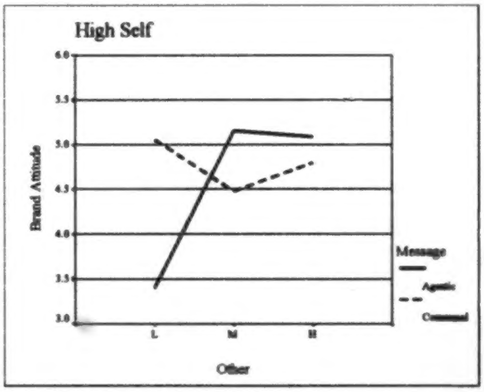


Figure 65
Message by Other at Low Self: Ad Identification

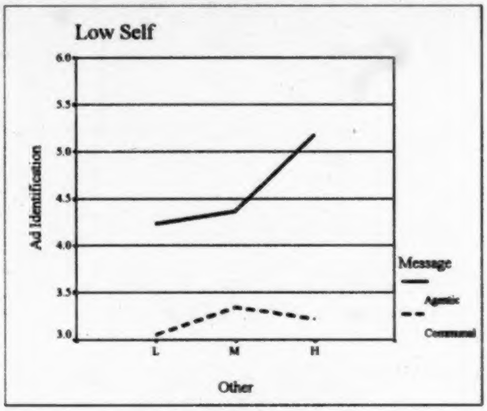


Figure 66
Message by Other at Moderate Self: Brand Attitude

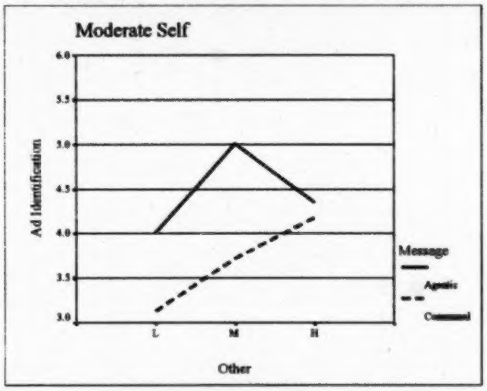


Figure 67
Message by Other at High Self: Ad Identification

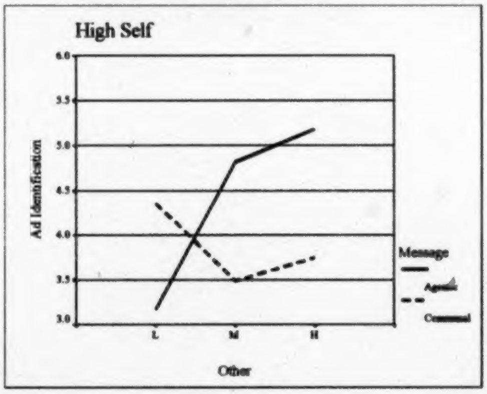


Figure 68
Message by Other at Low Self: Intentions (log)

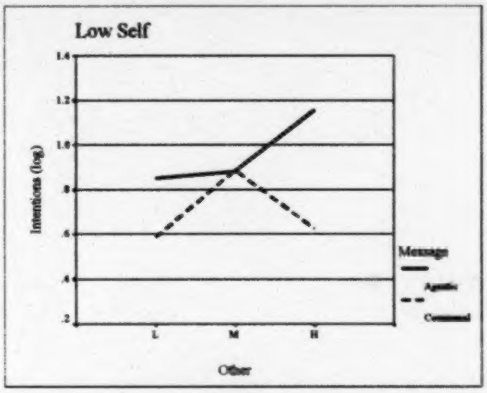


Figure 69
Message by Other at Moderate Self: Intentions

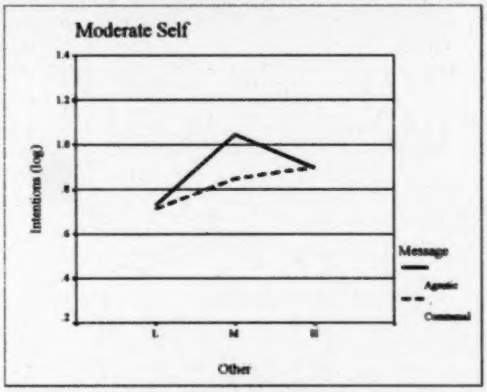
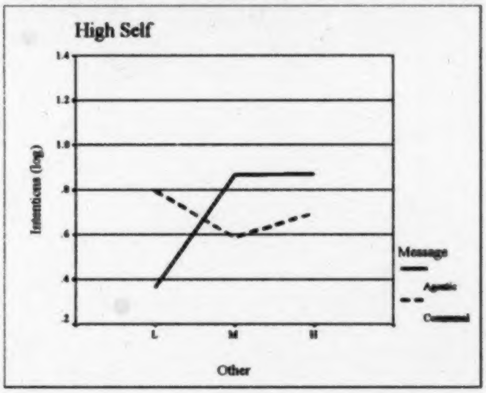


Figure 70
Message by Other at High Self: Intentions



APPENDIX 55

Figure 71
Message by Self at Low Other: Ad Attitude

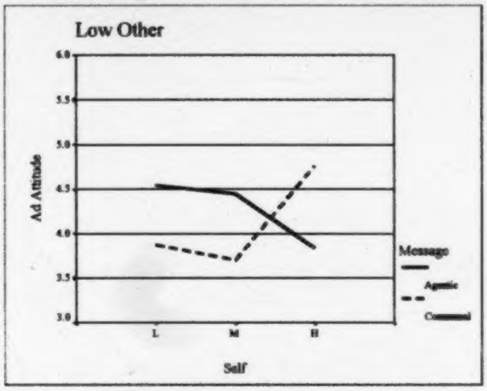


Figure 72
Message by Self at Moderate Other: Ad Attitude

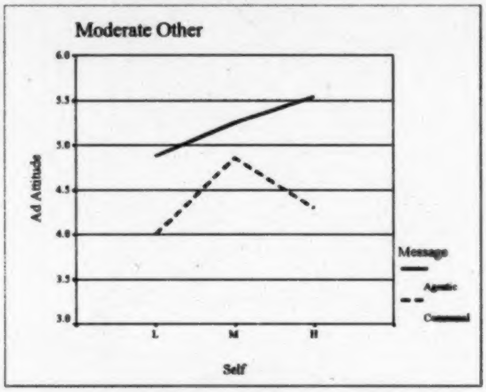


Figure 73
Message by Self at High Other: Ad Attitude

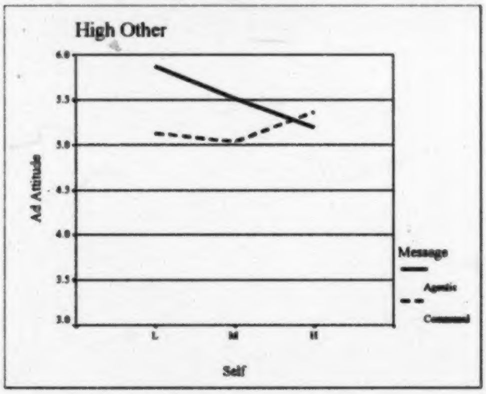


Figure 74
Message by Self at Low Other: Brand Attitude

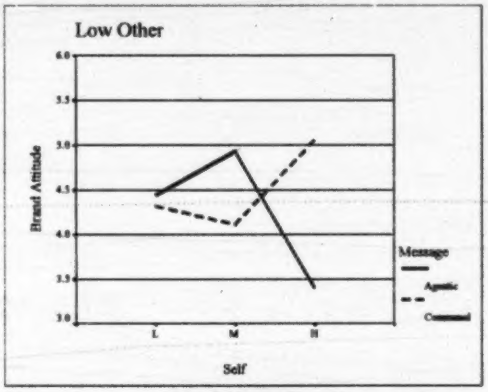


Figure 75
Message by Self at Moderate Other: Brand Attitude

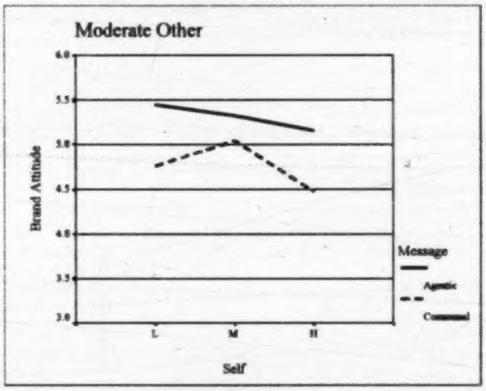


Figure 76
Message by Self at High Other: Brand Attitude

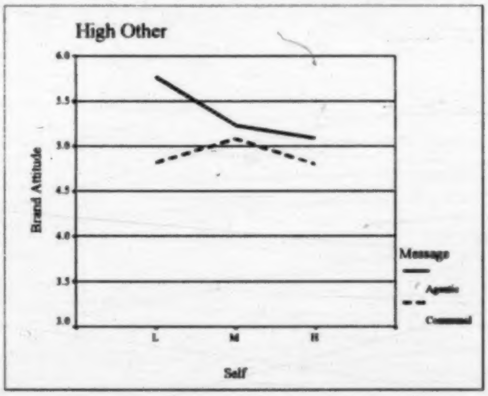


Figure 77
Message by Self at Low Other: Ad Identification

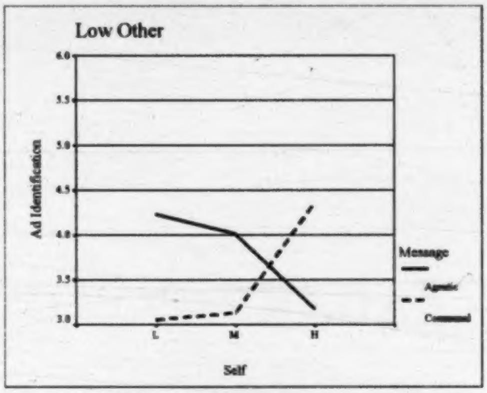


Figure 78
Message by Self at Moderate Other: Ad Identification

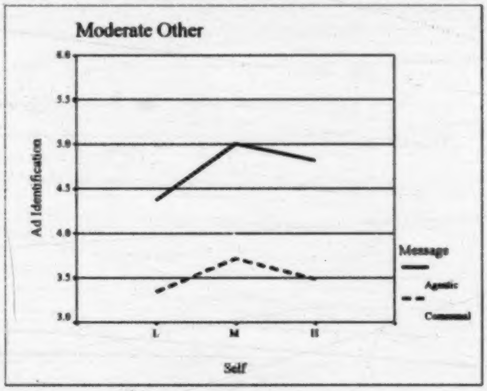


Figure 79
Message by Self at High Other: Ad Identification

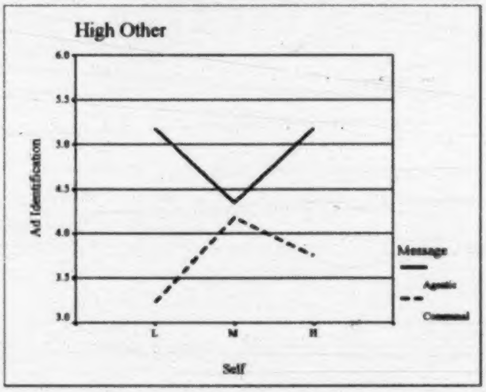


Figure 80
Message by Self at Low Other: Intentions (log)

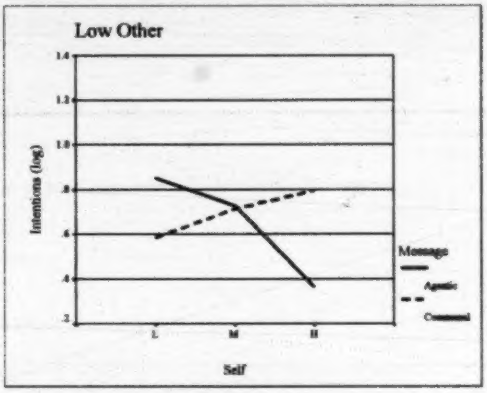


Figure 81
Message by Self at Moderate Other: Intentions (log)

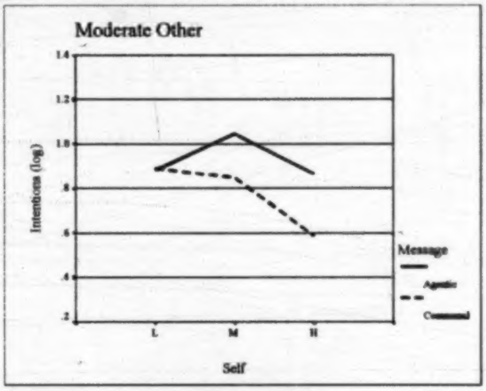
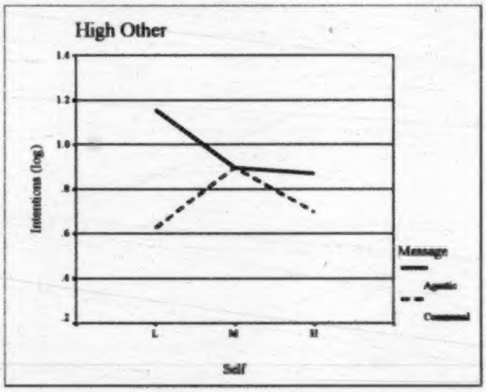


Figure 82
Message by Self at High Other: Intentions (log)



APPENDIX 56

Multivariate Analysis of Variance
Planned Contrasts
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Table 29
Other Within Communal Message and Self Within Agentic Message

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Other Within Communal	$(s = 2, m = 1, n = 247)$						
	Wilk's	.95977	2.57239	8.00	992.00	.009	.920
Self Within Agentic	$(s = 2, m = 1, n = 247)$						
	Wilk's	.97712	1.44358	8.00	992.00	.174	.660

Table 30
Bonferroni Joint Multivariate Confidence Intervals
Other Within Communal Message

Variable	Contrast	Interval
Ad Attitude	$\mu112 = \mu132$	1.255 ± 1.479
	$\mu212 = \mu232$	1.338 ± 1.369
	$\mu312 = \mu332$	.566 ± 1.288
Brand Attitude	$\mu112 = \mu132$	.496 ± 1.300
	$\mu212 = \mu232$	.972 ± 1.204
	$\mu312 = \mu332$	-.260 ± 1.13
Ad Identification	$\mu112 = \mu132$	.166 ± 1.572
	$\mu212 = \mu232$	1.052 ± 1.455
	$\mu312 = \mu332$	-.615 ± 1.369
Intentions (log)	$\mu112 = \mu132$	.040 ± .468
	$\mu212 = \mu232$	.185 ± .433
	$\mu312 = \mu332$	.098 ± .407

Table 31

Message Within Low Self/Low Other, High Self/Low Other, Low Self/High Other and High Self/High Other

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message Within LS/LO	$(s = 1, m = 1, n = 247)$						
	Wilk's	.98640	1.70937	4.00	496.00	.147	.520
Message Within HS/LO	$(s = 1, m = 1, n = 247)$						
	Wilk's	.98627	1.72581	4.00	496.00	.143	.530
Message Within LS/HO	$(s = 1, m = 1, n = 247)$						
	Wilk's	.97558	3.10376	4.00	496.00	.015	.810
Message Within HS/HO	$(s = 1, m = 1, n = 247)$						
	Wilk's	.97089	3.71782	4.00	496.00	.005	.880

Table 32

Bonferroni Joint Multivariate Confidence Intervals Message Within High Self Within High Other

Variable	Contrast	Interval
Ad Attitude	$\mu 131 = \mu 132$	.172 ± 1.244
Brand Attitude	$\mu 131 = \mu 132$	-.292 ± 1.093
Ad Identification	$\mu 131 = \mu 132$	-1.432 ± 1.322
Intentions (log)	$\mu 131 = \mu 132$	-.075 ± .393

Table 33

Bonferroni Joint Multivariate Confidence Intervals Message Within Low Self Within High Other

Variable	Contrast	Interval
Ad Attitude	$\mu 131 = \mu 132$	.742 ± 1.454
Brand Attitude	$\mu 131 = \mu 132$	.954 ± 1.526
Ad Identification	$\mu 131 = \mu 132$	1.957 ± 1.546
Intentions (log)	$\mu 131 = \mu 132$	.532 ± .460

APPENDIX 57

Multivariate Analysis of Variance
"Simple" Two-Way Interactions
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Table 34
Message by Other Within High Self

Effect	Test	Value	F	Hypoth. *df*	Error *df*	Sig. Of F	Power
Message By Other Within HS	$(s = 2, m = \frac{1}{2}, n = 246)$						
	Wilk's	.95903	2.61507	8.00	988.00	.008	.930

Table 35
Bonferroni Joint Multivariate Confidence Intervals
Message By Other Within High Self

Variable	Contrast	Interval
Ad Attitude	$(\mu311 - \mu321) = (\mu312 - \mu322)$	-2.185 ± 2.067
	$(\mu321 - \mu331) = (\mu322 - \mu332)$	1.422 ± 1.853
Brand Attitude	$(\mu311 - \mu321) = (\mu312 - \mu322)$	-2.340 ± .817
	$(\mu321 - \mu331) = (\mu322 - \mu332)$	.386 ± 1.629
Ad Identification	$(\mu311 - \mu321) = (\mu312 - \mu322)$	2.526 ± 2.197
	$(\mu321 - \mu331) = (\mu322 - \mu332)$	-.101 ± 1.969
Intentions (log)	$(\mu311 - \mu321) = (\mu312 - \mu322)$	-.709 ± .654
	$(\mu321 - \mu331) = (\mu322 - \mu332)$	.102 ± .586

Table 36
Message by Self Within Low Other

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message by Self Within LO	*(s = 2, m = ½, n = 246)*						
	Wilk's	.96735	2.06683	8.00	988.00	.036	.840

Table 37
Bonferroni Joint Multivariate Confidence Intervals
Message By Self Within Low Other

Variable	Contrast	Interval
Ad Attitude	(μ311 – μ321) = (μ312 – μ322)	-.080 ± 1.951
	(μ321 – μ331) = (μ322 – μ332)	1.685 ± 2.057
Brand Attitude	(μ311 – μ321) = (μ312 – μ322)	-.700 ± 1.715
	(μ321 – μ331) = (μ322 – μ332)	2.482 ± 1.808
Ad Identification	(μ311 – μ321) = (μ312 – μ322)	.287 ± 2.074
	(μ321 – μ331) = (μ322 – μ332)	2.079 ± 2.186
Intentions (log)	(μ311 – μ321) = (μ312 – μ322)	.252 ± .617
	(μ321 – μ331) = (μ322 – μ332)	.447 ± .650

APPENDIX 58

Multivariate Analysis of Variance
Simple Main Effect for Other
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Table 38
Other Within Agentic Message Within High Self

Effect	Test	Value	F	Hypoth. *df*	Error *df*	Sig. Of F	Power
Other Within Agentic Within HS	*($s = 2$, $m = ½$, $n = 247$)*						
	Wilks	.96779	2.04633	8.00	992.00	.038	.840

Table 39
Bonferroni Joint Multivariate Confidence Intervals
Other Within Agentic Message Within High Self

Variable	Contrast	Interval
Ad Attitude	$\mu 311 = \mu 321$	1.712 ± 1.559
Brand Attitude	$\mu 311 = \mu 321$	-1.756 ± 1.370
Ad Identification	$\mu 311 = \mu 321$	1.651 ± 1.656
Intentions (log)	$\mu 311 = \mu 321$	-.502 ± -.493
	$\mu 311 = \mu 331$	-.509 ± .477

APPENDIX 59

Table 40
Multivariate Analysis of Covariance:
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Sex	(*s = 1, m = 1, n = 243½*)							
	Wilk's	.99717	.34748	4.00	489.00	.846	.003	.129
Message	(*s = 1, m = 1, n = 243½*)							
	Wilk's	.94013	7.78474	4.00	489.00	.000	.060	.998
Sex	(*s = 1, m = 1, n = 243½*)							
	Wilk's	.98020	2.20812	4.00	489.00	.067	.018	.649

Table 41
Multivariate Analysis of Variance:
Ad Attitude, Brand Attitude, Ad Identification, and Intentions (log)

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Sex	(*s = 1, m = 1, n = 247½*)							
	Wilk's	.99724	.34342	4.00	497.00	.849	.003	.128
Message	(*s = 1, m = 1, n = 247½*)							
	Wilk's	.94764	6.86500	4.00	497.00	.000	.052	.994
Sex	(*s = 1, m = 1, n = 247½*)							
	Wilk's	.97817	2.77267	4.00	497.00	.027	.022	.762

Table 42
Multivariate Analysis of Variance:
Rational Decision-making Style and Motivation/Ability

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Sex	(*s = 1, m = 0, n = 246½*)							
	Wilk's	.99098	2.25340	2.00	495.00	.106	.009	.459

APPENDIX 60

Manipulation Check Regression
Sex and Message

Table 43
Individual Orientation Regression

Model	Sum of Squares	*df*	Mean Square	*F*	Sig. of *F*
Regression	202.324	3	67.441	13.177	.000
Residual	2559.002	500	5.118		
Total	2761.325	503			

$R = .271$ $R^2 = .073$ *Adj.* $R^2 = .068$
Standard Error of the Estimate = 2.2623

Table 44
Individual Orientation Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	*T*	Sig. of *t*
	B	Std. Error	Beta		
(Constant)	5.607	.109		51.428	.000
Sex by Message	-.020	.109	-.008	-.182	.855
Sex	-.167	.109	-.066	-1.529	.127
Message	.622	.109	.266	5.707	.000

Table 45
Relationship Orientation Regression

Model	Sum of Squares	*df*	Mean Square	*F*	Sig. of *F*
Regression	184.523	3	61.508	10.883	.000
Residual	2825.977	500	5.652		
Total	3010.500	503			

$R = .248$ $R^2 = .061$ *Adj.* $R^2 = .056$
Standard Error of the Estimate = 2.3774

Table 46
Relationship Orientation Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig. of *t*
	B	Std. Error	Beta		
(Constant)	4.919	.115			.000
Sex by Message	.092	.115	.038	.805	.421
Sex	.018	.115	.007	.156	.876
Message	-.567	.115	-.232	-4.948	.000

Manipulation Check Regression
Self, Other and Message

Table 47
Relationship Orientation Regression

Model	Sum of Squares	*df*	Mean Square	*F*	Sig. of *F*
Regression	229.466	2	114.733	20.669	.000
Residual	2781.034	501	5.551		
Total	3010.500	503			

$R = .276$ $R^2 = .076$ $Adj.\ R^2 = .073$
Standard Error of the Estimate = 2.3560

Table 48
Relationship Orientation Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig. of *t*
	B	Std. Error	Beta		
(Constant)	4.921	.105		26.893	.000
Other	.312	.105	.127	2.968	.003
Message	-.603	.105	-.247	-5.744	.000

Table 49
Individual Orientation Regresssion

Model	Sum of Squares	*df*	Mean Square	*F*	Sig. of *F*
Regression	276.214	3	92.071	18.525	.000
Residual	2485.111	500	4.970		
Total	2761.325	503			

$R = .316$ $R^2 = .100$ $Adj.\ R^2 = .095$
Standard Error of the Estimate = 2.2294

Table 50
Individual Orientation Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig. of *t*
	B	Std. Error	Beta		
(Constant)	5.652	.099		56.819	.000
Self by Message	-.233	.100	-.099	-2.334	.020
Self	.329	.100	.141	3.300	.001
Message	.633	.099	.270	6.363	.000

Figure 83
Message: Relationship Orientation Manipulation Check

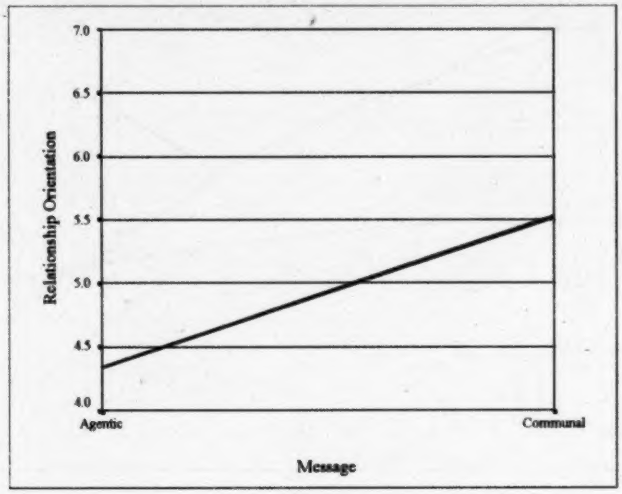


Figure 84
Other: Relationship Orientation Manipulation Check

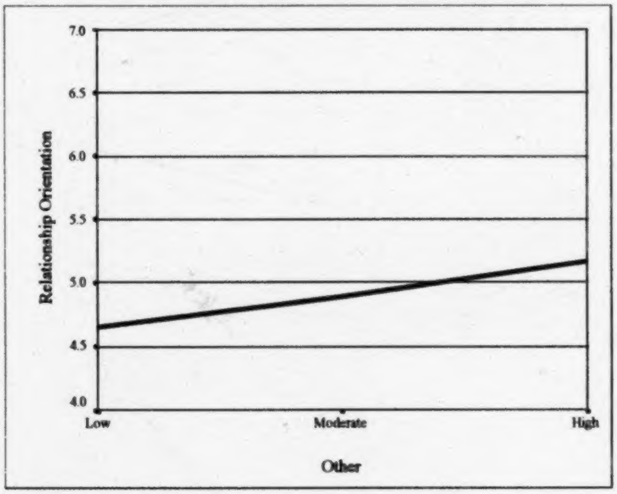
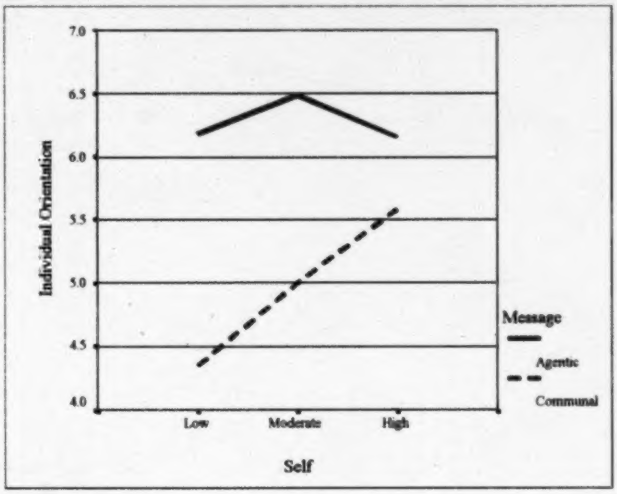


Figure 85
Message by Self: Individual Orientation Manipulation Check



Agentic Ad

Subject 73: single female, age 18, science (geology)

The ad for the running shoes had a nice scenic picture of a person running in the outdoors.

- a person who wasn't thinking about the word "impossible". The shoe was 'New Balance'. The photo in the ad was sunny and the phrases used to describe his situation (where he was, what he was doing) made me want to be there.
- there was graphite used for the design.

Subject 113: single female, age 19, arts (psychology)

- has 4 sentences: 2 start with "one less person…" and 2 start with "one more person…"
- basically talks about having more time for yourself rather than working for others.
- shows a man running alone.
- I thought the running shoes looked nice but I'd probably never buy them cause they would be too expensive. Most running shoes with an ad are really expensive.

Subject 194: single female, age 18, science (psychology)

The running shoes were called New Balance and they came in a variety of widths. There was a man in the photograph running down a path in the wilderness. The ad made me feel that buying the shoes would make me feel free and at one with nature. There was also an internet address in the corner.

Subject 282: single female, age 18, science

nice
black stood out
looked like good shoes
interesting words
escape
word impossible
freedom
good picture – nice image
words were written – captivating, deep – made u think the shoes meant freedom
good usage of colour.

Subject 392: single female, age 18, arts

There was a girl running down an isolated road. She seemed very close to nature. It was a dirt road and very isolated. She was wearing shorts. There were a few trees. Underneath the picture was one shoe – the shoe that they were advertising. It was white. There was a caption beside it about running a great distance.

- freedom
- power
- exertion

Subject 444: single female, age 17, science (biology)

The running shoes had this person walking in a peaceful area and had some sentences about one less person being in the office and being controlled by someone else. And said something along the lines of one more person doing something for themselves. It was a good ad, not brutally demanding for the reader's attention.

Subject 631: single female, age 23, science (genetics)

I liked this one.
- a high tech shoe on the bottom
- a person running in beautiful scenery.
- a blurb about being independent.
- I liked the connotations the ad had – portrayed the person as strong, had worked hard, didn't follow the crowd & that the shoe was something they'd chosen because it was a better shoe, not 'cause someone said it'd make them better.

Subject 713: single female, age 18, arts (psychology)
- scene of a person peacefully jogging in the outdoors away from city life.
- had some lines about "one less person to worry about".

Subject 776: single female, age 19, agriculture/forestry/human ecology (nutrition)

White running shoe focusing on adults who see the world differently. It showed comfort and a person who was calm and relaxed taking a walk in the park.

Communal Ad

Subject 64: single female, age 19, arts (education)

There was a family running along a curved road. The picture was taken from up above. The words spoke of being a better person, doctor, parent. I didn't find the ad appealing, I thought to myself, "Why would these running shoes make you a better parent or doctor. Running shoes are not an essential element to being a successful parent or doctor.

Subject 232: single female, age 23, education

insinuating running (in these shoes) will make me a better person. People running on a path/road. Picture of one of the shoes. I thought it was quite patronizing and manipulative, did not make me want them. Rather insulting.

Subject 330: single female, age 19, arts (business)

something about a better runner, better parent, better doctor…emphasize better runner. Family wearing black and white in picture at top of page. How stupid. Not very catchy ad. What does being a better doctor/parent have to do with running shoes?

Subject 340: single female, age 17, science

The running shoe advertisement showed a young family with a mother, a father, 2 young boys and a dog. They were running on the road and below the picture of them was a big picture of a running shoe. The advertisement was very wordy and suggested that running made you a better father and a better person overall. It repeated the phrase "be a better runner". I thought the ad was too wordy and very fake with the family picture and suggestions that the shoe would make a better family.

Subject 383: single female, age 20, science (biology)

It was aimed at an older audience…I thought it wasn't aimed at my demographic.

Subject 445: single female, age 20, agriculture/forestry/human ecology (nutrition)

I didn't like this ad beause it implied that you were substandard if you didn't run.

Subject 663: single female, age unknown, arts

Shows the shoes and a family from far, says how you should run to become better. Thought that wasn't too fair since everyone does run for different reasons and it shouldn't make it sound like if your not running for that it's not good, etc. And what does a family standing there have to do with running?

Figure 86
Correlations Among Self, Other and Decision-making Styles

	Self	Other	RAT	INT
Other	.081			
RAT	.170*	.223*		
INT	.139*	-.023	-.285*	
DEP	-.423*	.066	.089	-.001

RAT	Rational Decision-making Style
INT	Intuitive Decision-making Style
DEP	Dependent Decision-making Style

* $p < .01$

APPENDIX 64

Decision-making Styles by Levels of Self and Other

Table 51
Rational Decision-making Style

Variable	Level	Cell Mean	Std. Dev.	n
Self	Low	4.628	.835	141
	Moderate	4.730	.895	194
	High	5.013	.973	134
Other	Low	4.599	.901	123
	Moderate	4.682	.860	193
	High	5.050	.927	153

Table 52
Intuitive Decision-making Style

Variable	Level	Cell Mean	Std. Dev.	n
Self	Low	3.826	.728	141
	Moderate	3.956	.687	194
	High	4.072	.808	134
Other	Low	3.938	.751	123
	Moderate	3.994	.717	193
	High	3.903	.762	153

Table 53
Dependent Decision-making Style

Variable	Level	Cell Mean	Std. Dev.	n
Self	Low	3.919	1.033	141
	Moderate	3.498	.883	194
	High	2.912	.862	134
Other	Low	3.289	.991	123
	Moderate	3.507	.983	193
	High	3.530	1.022	153

APPENDIX 65

Figure 87
Self: Rational Decision-making Style

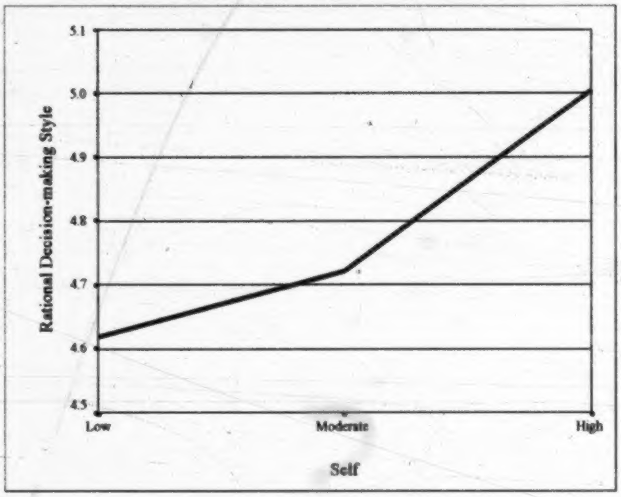


Figure 88
Other: Rational Decision-making Style

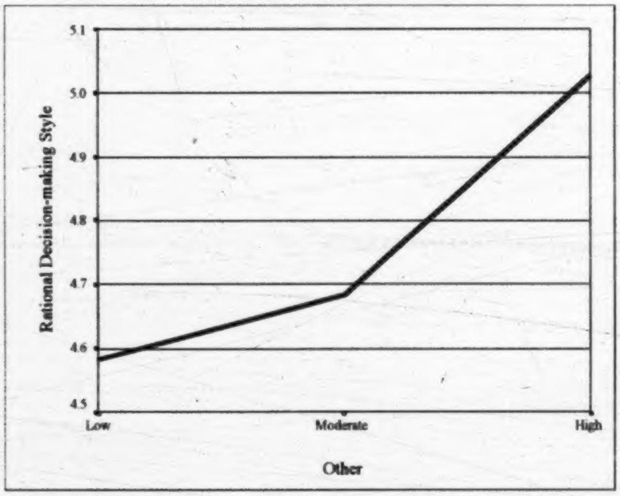


Figure 89
Self: Intuitive Decision-making Style

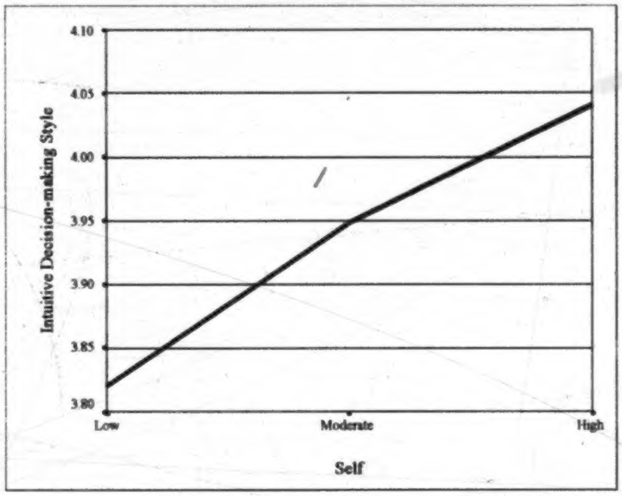


Figure 90
Other: Intuitive Decision-making Style

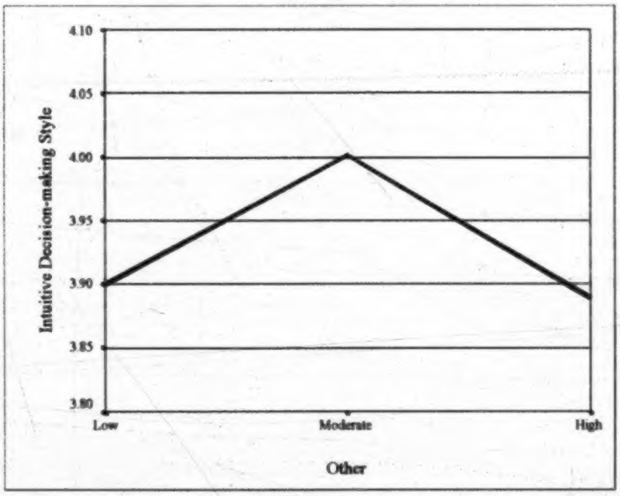


Figure 91
Self: Dependent Decision-making Style

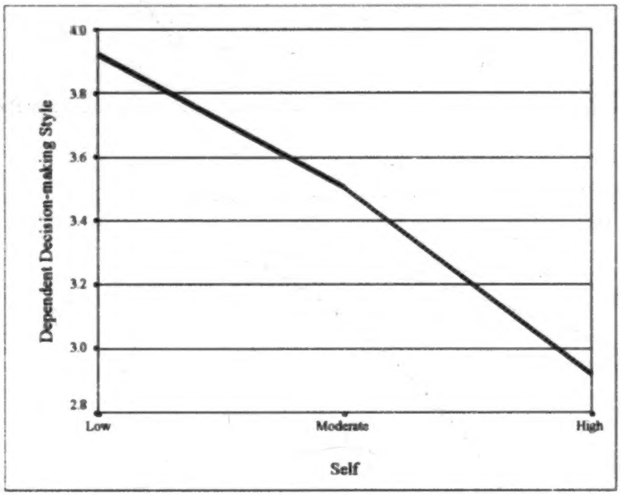
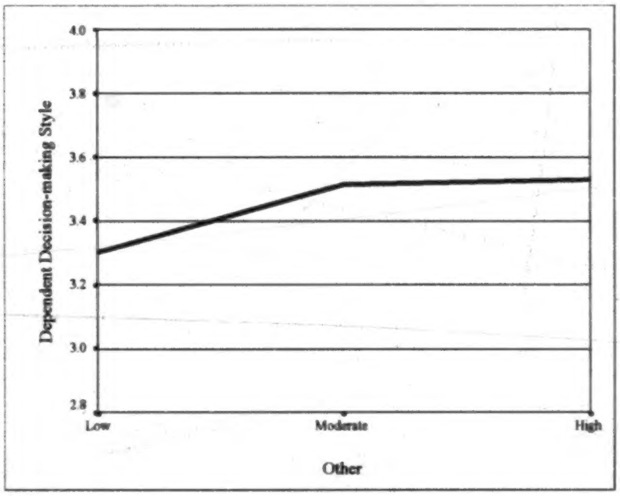


Figure 92
Other: Dependent Decision-making Style



APPENDIX 66

Table 54
Multivariate Analysis of Variance: Discrimination and Recall

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Self By Other	$(s = 2, m = \frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.96677	2.06607	8.00	970.00	.036	.017	.840
Self by Other	$(s = 2, m = \frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.98837	.71101	8.00	970.00	.682	.006	.336
Message By Other	$(s = 2, m = -\frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.99274	.88502	4.00	970.00	.472	.004	.284
Message By Self	$(s = 2, m = -\frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.99674	.39658	4.00	970.00	.811	.002	.143
Other	$(s = 2, m = -\frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.99544	.55538	4.00	970.00	.695	.002	.187
Self	$(s = 2, m = -\frac{1}{2}, n = 241\frac{1}{2})$							
	Wilk's	.97985	2.48064	4.00	970.00	.042	.010	.709
Message	$(s = 1, m = 0, n = 241)$							
	Wilk's	.97033	7.41397	2.00	485.00	.001	.030	.940

Figure 93
Residuals Histogram: New Balance Discrimination

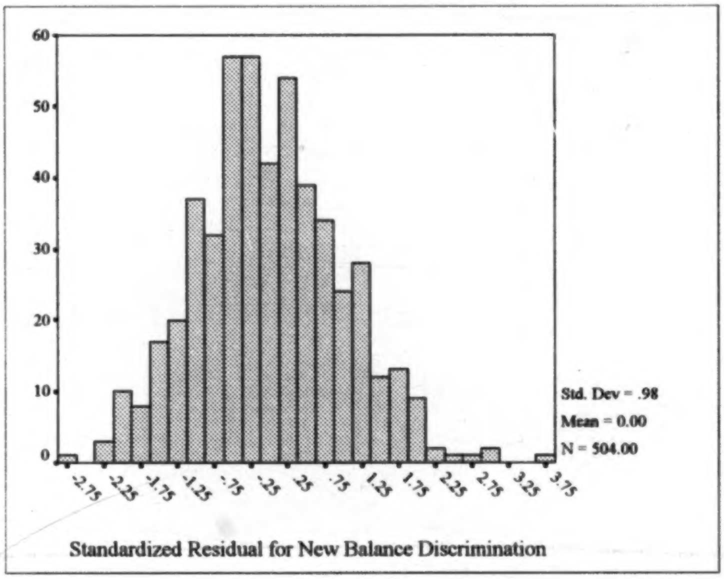


Figure 94
Residuals Histogram: New Balance Recall

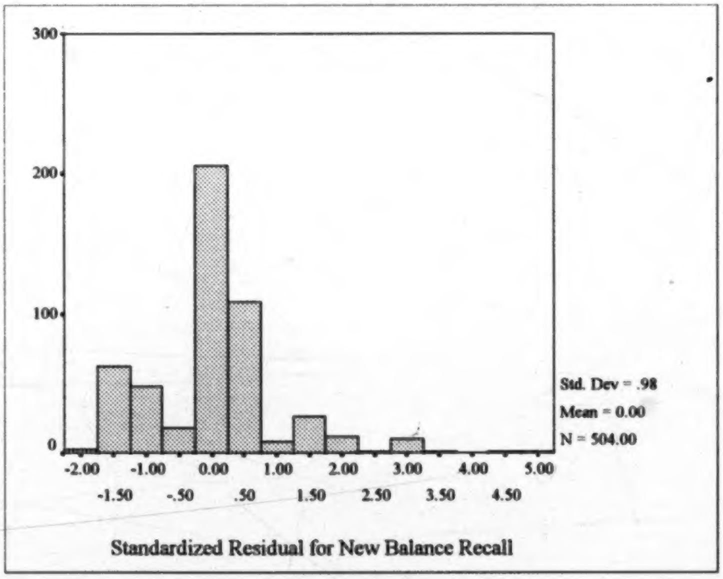


Figure 95
Predicted Values vs. Standardized Residuals: Discrimination

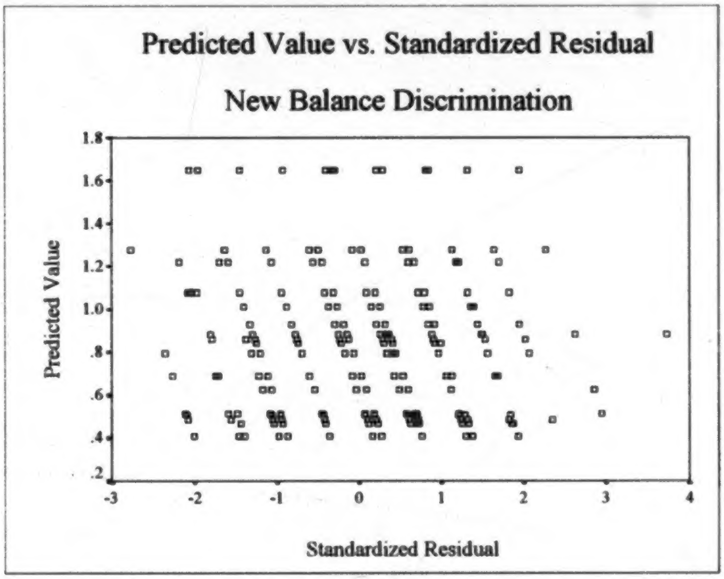
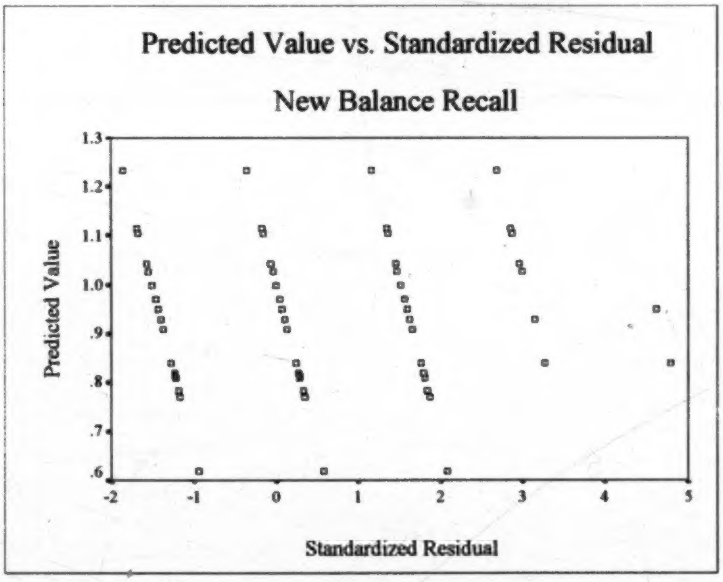


Figure 96
Predicted Values vs. Standardized Residuals: Recall



APPENDIX 69

Figure 97
Spread vs. Level: Discrimination

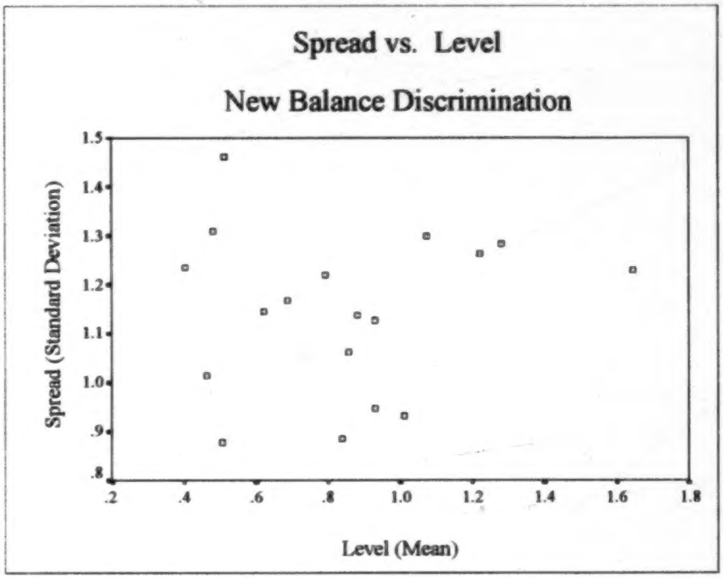
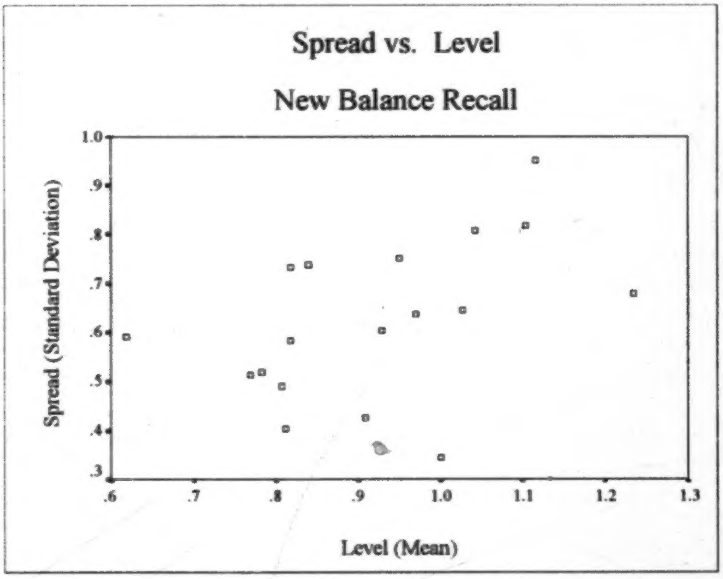


Figure 98
Spread vs. Level: Recall



New Balance Dependent Measures by Cell

Table 55
Discrimination

Message	Self	Other	Cell Mean	Std. Dev.	n
Agentic	Low	Low	.931	.945	22
		Moderate	1.646	1.230	30
		High	1.074	1.299	26
	Moderate	Low	.858	1.064	29
		Moderate	.882	1.136	50
		High	1.010	.930	37
	High	Low	.929	1.126	16
		Moderate	.839	.885	22
		High	1.220	1.262	26
Communal	Low	Low	1.279	1.284	24
		Moderate	.462	1.015	33
		High	.622	1.144	18
	Moderate	Low	.514	1.461	21
		Moderate	.506	.878	40
		High	.792	1.218	28
	High	Low	.403	1.235	23
		Moderate	.480	1.310	26
		High	.688	1.168	33

Table 56
Recall

Message	Self	Other	Cell Mean	Std. Dev.	n
Agentic	Low	Low	.818	.733	22
		Moderate	1.233	.679	30
		High	1.115	.952	26
	Moderate	Low	1.103	.817	29
		Moderate	.840	.738	50
		High	1.027	.645	37
	High	Low	.813	.403	16
		Moderate	.909	.426	22
		High	.808	.491	26
Communal	Low	Low	1.042	.807	24
		Moderate	.970	.637	33
		High	1.000	.343	18
	Moderate	Low	.619	.590	21
		Moderate	.950	.749	40
		High	.929	.604	28
	High	Low	.783	.518	23
		Moderate	.769	.514	26
		High	.818	.583	33

Figure 99
Other by Self at Agentic Message Level: Discrimination

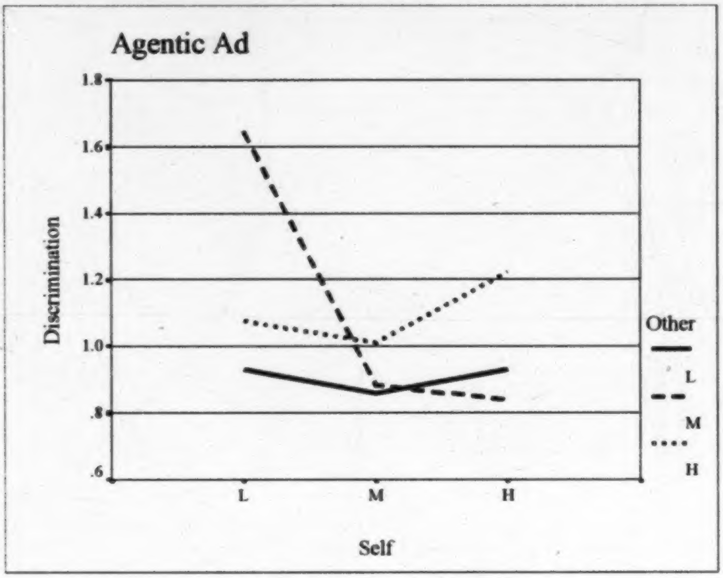


Figure 100
Other by Self at Communal Message Level: Discrimination

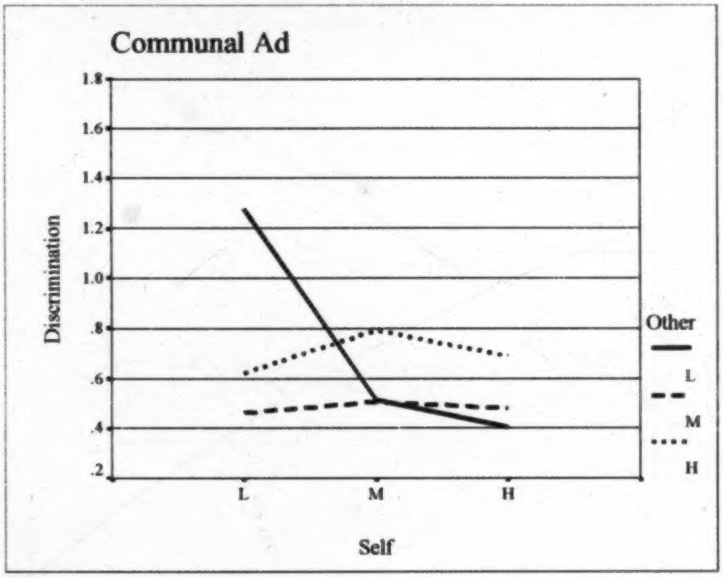


Figure 101
Other by Self at Agentic Message Level: Recall

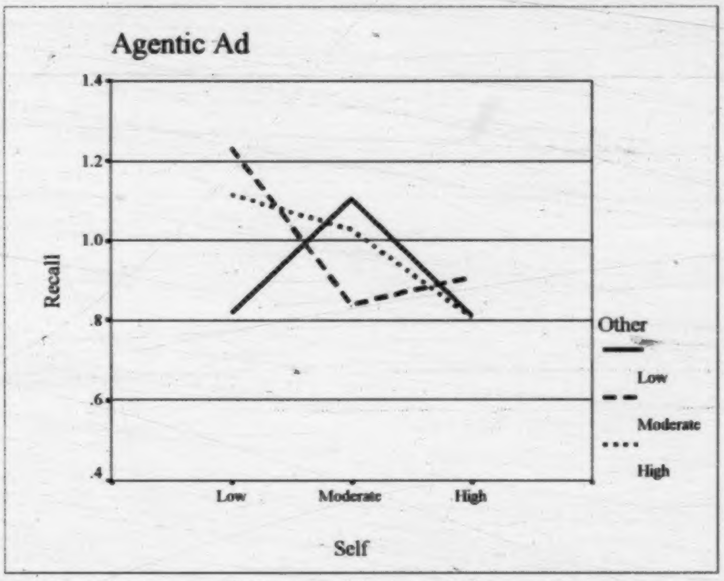


Figure 102
Other by Self at Communal Message Level: Recall

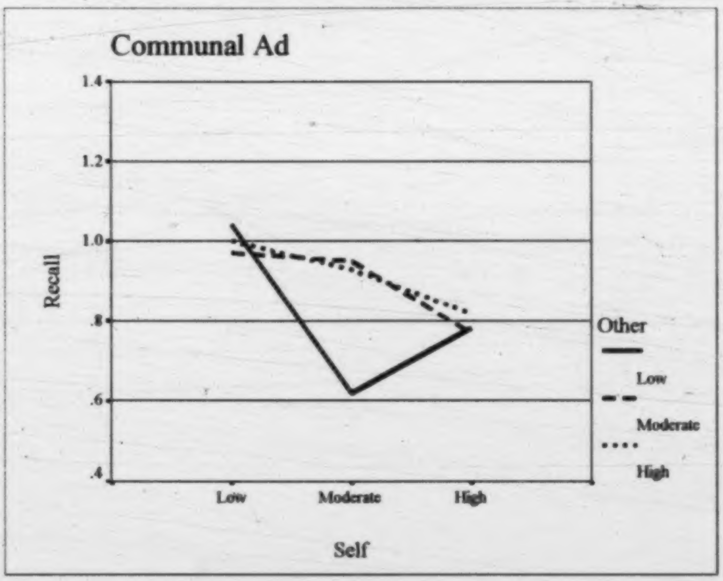


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Figure 103
Message by Other at Low Self: Discrimination

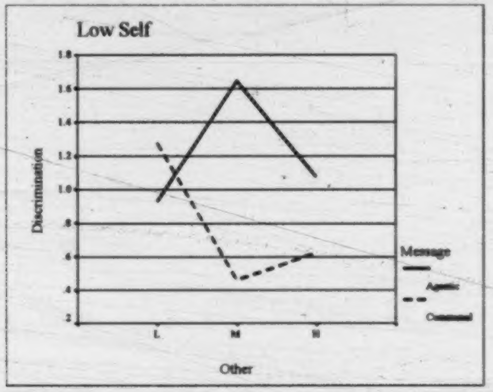


Figure 104
Message by Other at Moderate Self: Discrimination

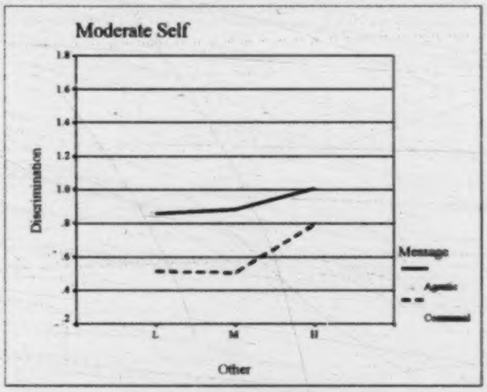


Figure 105
Message by Other at High Self: Discrimination

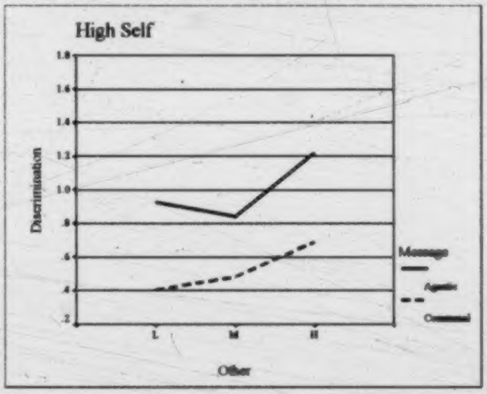


Figure 106
Message by Other at Low Self: Recall

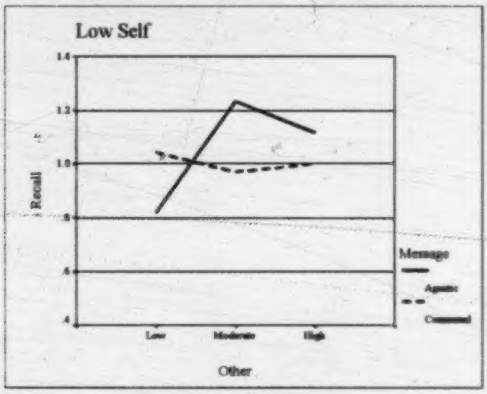


Figure 107
Message by Other at Moderate Self: Recall

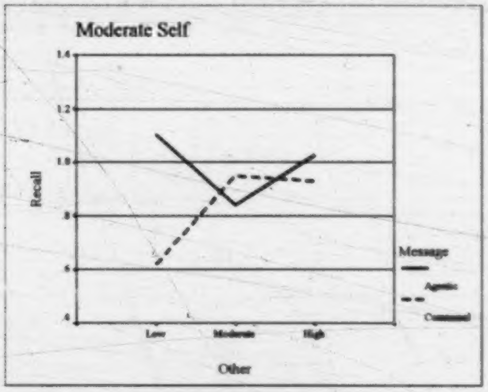


Figure 108
Message by Other at High Self: Recall

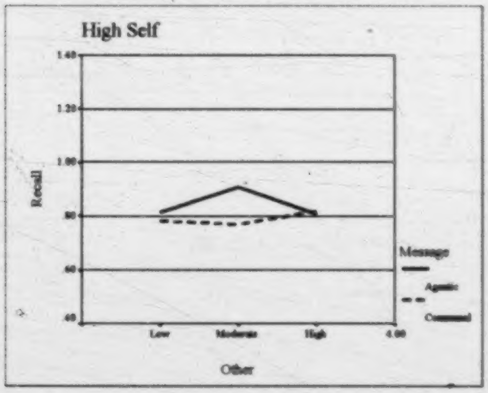


Figure 109
Message by Self at Low Other: Discrimination

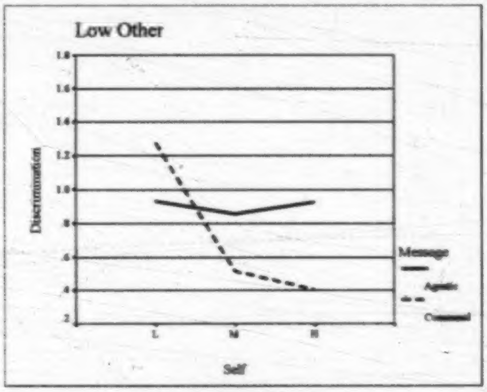


Figure 110
Message by Self at Moderate Other: Discrimination

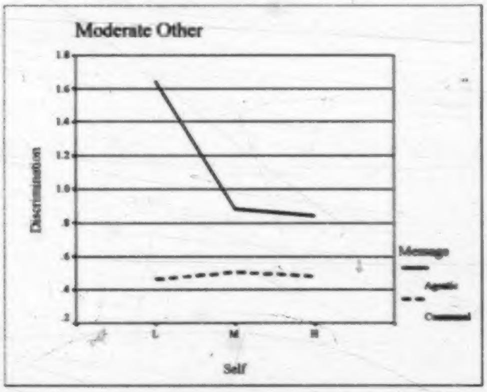


Figure 111
Message by Self at High Other: Discrimination

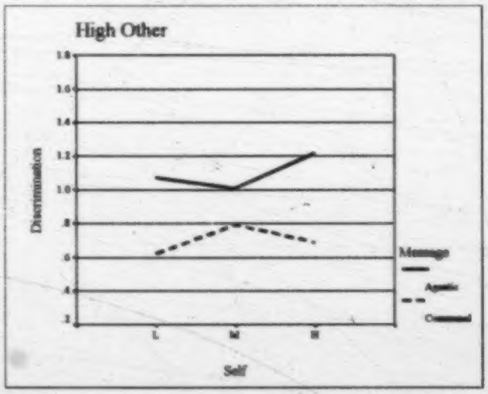


Figure 112
Message by Self at Low Other: Recall

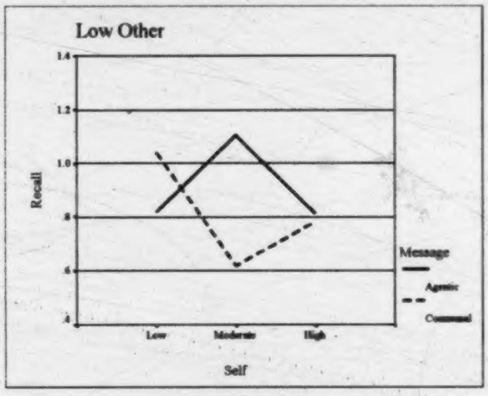


Figure 113
Message by Self at Moderate Other: Recall

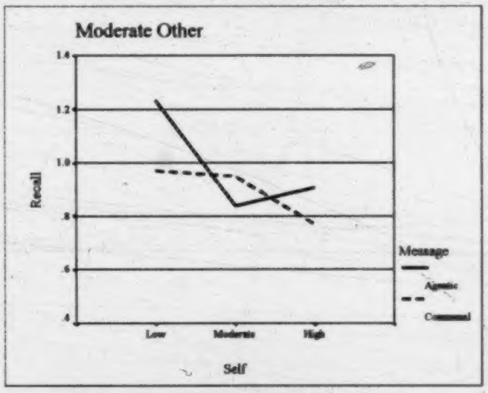
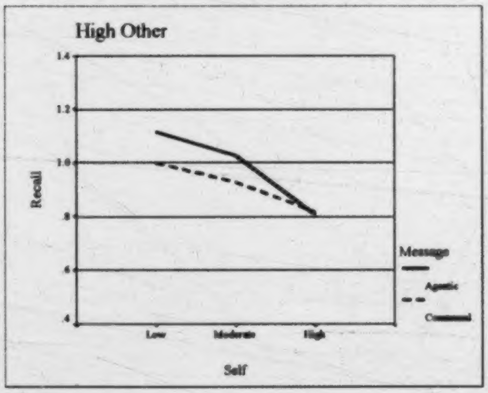


Figure 114
Message by Self at High Other: Recall



APPENDIX 74

Multivariate Analysis of Variance
Planned Contrasts
Discrimination and Recall

Table 57
Other Within Communal Message and Self Within Agentic Message

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Other Within Communal	*(s = 2, m = -½, n = 248)*						
	Wilk's	.98854	1.43922	4.00	996.00	.219	.450
Self Within Agentic	*(s = 2, m = -½, n = 248)*						
	Wilk's	.98699	1.63624	4.00	996.00	.163	.510

Table 58
Message Within Low Self/Low Other, High Self/Low Other, Low Self/High Other and High Self/High Other

Effect	Test	Value	F	Hypoth. *df*	Error *df*	Sig. Of F	Power
Message Within L/S Within L/O	*(s = 1, m = 0, n = 248)*						
	Wilk's	.99618	.95594	2.00	498.00	.385	.220
Message Within H/S Within L/O	*(s = 1, m = 0, n = 248)*						
	Wilk's	.99497	1.25928	2.00	498.00	.285	.270
Message Within L/S Within H/O	*(s = 1, m = 0, n = 248)*						
	Wilk's	.99625	.93697	2.00	498.00	.393	.210
Message Within H/S Within H/O	*(s = 1, m = 0, n = 248)*						
	Wilk's	.99408	1.48281	2.00	498.00	.228	.320

APPENDIX 75

Multivariate Analysis of Variance
"Simple" Two-Way Interactions
Discrimination and Recall

Table 59
Message by Other Within Low Self

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message By Other Within LS	*(s = 2, m = -½, n = 247)*						
	Wilk's	.97051	3.74003	4.00	992.00	.005	.890

Table 60
Bonferroni Joint Multivariate Confidence Intervals
Message By Other Within Low Self

Variable	Contrast	Interval
Discrimination	$(\mu 111 - \mu 121) = (\mu 112 - \mu 122)$	$1.480 \pm .996$
	$(\mu 121 - \mu 131) = (\mu 122 - \mu 132)$	$.680 \pm 1.018$
Recall	$(\mu 111 - \mu 121) = (\mu 112 - \mu 122)$	$-.487 \pm .576$
	$(\mu 121 - \mu 131) = (\mu 122 - \mu 132)$	$.148 \pm .589$

Table 61
Message by Self Within Low Other

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message By Self Within LO	*(s = 2, m = -½, n = 247)*						
	Wilk's	.98138	2.34157	4.00	992.00	.053	.680

Table 62
Bonferroni Joint Multivariate Confidence Intervals
Message By Self Within Low Other

Variable	Contrast	Interval
Discrimination	$(\mu 111 - \mu 121) = (\mu 112 - \mu 122)$	$-.692 \pm 1.055$
	$(\mu 121 - \mu 131) = (\mu 122 - \mu 132)$	$-.182 \pm 1.112$
Recall	$(\mu 111 - \mu 121) = (\mu 112 - \mu 122)$	$-.708 \pm .611$
	$(\mu 121 - \mu 131) = (\mu 122 - \mu 132)$	$.454 \pm .644$

APPENDIX 76

Multivariate Analysis of Variance
Simple Main Effects
Discrimination and Recall

Table 63
Message Within Moderate Other Within Low Self

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message Within MO Within LS	*(s = 1, m = 0, n = 248½)*						
	Wilk's	.96842	8.13566	2.00	499.00	.000	.960

Table 64
Bonferroni Joint Multivariate Confidence Intervals
Message Within Moderate Other Within Low Self

Variable	Contrast	Interval
Discrimination	$\mu 121 = \mu 122$	1.184 ± .647
Recall	$\mu 121 = \mu 122$	.263 ± .375

Table 65
Message Within Moderate Self Within Low Other

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Message Within MS Within LO	*(s = 1, m = 0, n = 248½)*						
	Wilk's	.98779	3.08307	2.00	499.00	.047	.590

Table 66
Bonferroni Joint Multivariate Confidence Intervals
Message Within Moderate Self Within Low Other

Variable	Contrast	Interval
Discrimination	$\mu 211 = \mu 212$	.344 ± .735
Recall	$\mu 211 = \mu 212$	.484 ± .425

Table 67
Self Within Communal Message Within Low Other

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	Power
Self Within	*(s = 2, m = -½, n = 248)*						
Communal Within LO	Wilk's	.98028	2.49266	4.00	996.00	.042	.710

Table 68
Bonferroni Joint Multivariate Confidence Intervals
Self Within Communal Message Within Low Other

Variable	Contrast	Interval
Discrimination	μ112 = μ212	.765 ± .776
	μ112 = μ312	.876 ± .748
Recall	μ112 = μ212	.423 ± .444
	μ112 = μ312	.259 ± .433

APPENDIX 77

Table 69
Multivariate Analysis of Variance: Discrimination and Recall

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Sex	*(s = 1, m = 0, n = 248½)*							
	Wilk's	.99744	.63940	2.00	499.00	.528	.003	.157
Sex	*(s = 1, m = 0, n = 248½)*							
	Wilk's	.98795	3.04211	2.00	499.00	.049	.012	.588
Message	*(s = 1, m = ½, n = 248)*							
	Wilk's	.97413	6.62629	2.00	499.00	.001	.026	.912

Table 70
Multivariate Analysis of Variance: Discrimination and Recall (Females)

Effect	Test	Value	*F*	Hypoth. *df*	Error *df*	Sig. Of *F*	η^2	Power
Message By Self By Other	*(s = 2, m = ½, n = 161)*							
	Wilk's	.97641	.97259	8.00	648.00	.456	.012	.460
Self by Other	*(s = 2, m = ½, n = 161)*							
	Wilk's	.97279	1.12482	8.00	648.00	.344	.014	.527
Message By Other	*(s = 2, m = -½, n = 161)*							
	Wilk's	.98961	.84859	4.00	648.00	.495	.005	.272
Message By Self	*(s = 2, m = -½, n = 161)*							
	Wilk's	.99199	.65305	4.00	648.00	.625	.004	.214
Other	*(s = 2, m = -½, n = 161)*							
	Wilk's	.98677	1.08271	4.00	648.00	.364	.007	.343
Self	*(s = 2, m = -½, n = 161)*							
	Wilk's	.98966	.84376	4.00	648.00	.498	.005	.271
Message	*(s = 1, m = 0, n = 161)*							
	Wilk's	.96018	6.71872	2.00	324.00	.001	.040	.915

Table 71
Multivariate Analysis of Variance: Discrimination and Recall (Males)

Effect	**Test**	**Value**	***F***	**Hypoth. *Df***	**Error *df***	**Sig. Of *F***	η^2	**Power**
Message By Self By Other	$(s = 2, m = \frac{1}{2}, n = 70)$							
	Wilk's	.88829	2.16623	8.00	284.00	.030	.057	.850
Self by Other	$(s = 2, m = \frac{1}{2}, n = 70)$							
	Wilk's	.95837	.76287	8.00	284.00	.636	.021	.356
Message By Other	$(s = 2, m = -\frac{1}{2}, n = 70)$							
	Wilk's	.98725	.45705	4.00	284.00	.767	.006	.158
Message By Self	$(s = 2, m = -\frac{1}{2}, n = 70)$							
	Wilk's	.99078	.32960	4.00	284.00	.858	.005	.125
Other	$(s = 2, m = -\frac{1}{2}, n = 70)$							
	Wilk's	.98865	.40633	4.00	284.00	.804	.006	.144
Self	$(s = 2, m = -\frac{1}{2}, n = 70)$							
	Wilk's	.94606	.84376	4.00	284.00	.095	.027	.593
Message	$(s = 1, m = 0, n = 70)$							
	Wilk's	.98113	1.36535	2.00	142.00	.259	.019	.290

Figure 115
Other by Self at Agentic Message Level: Discrimination

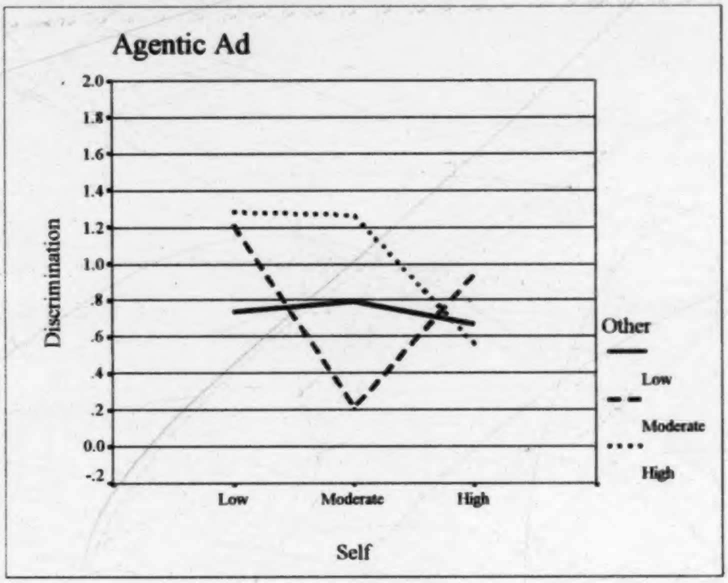


Figure 116
Other by Self at Communal Message Level: Discrimination

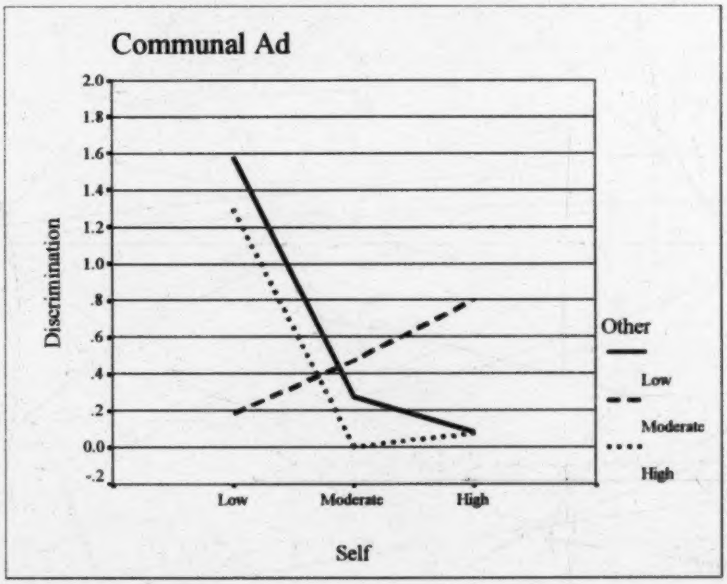


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Figure 117
Other by Self at Agentic Message Level: Recall

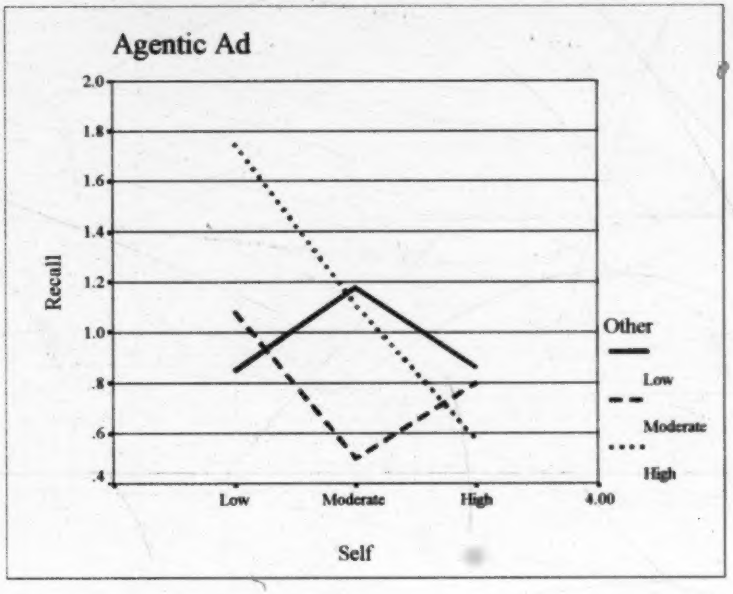


Figure 118
Other by Self at Communal Message Level: Recall

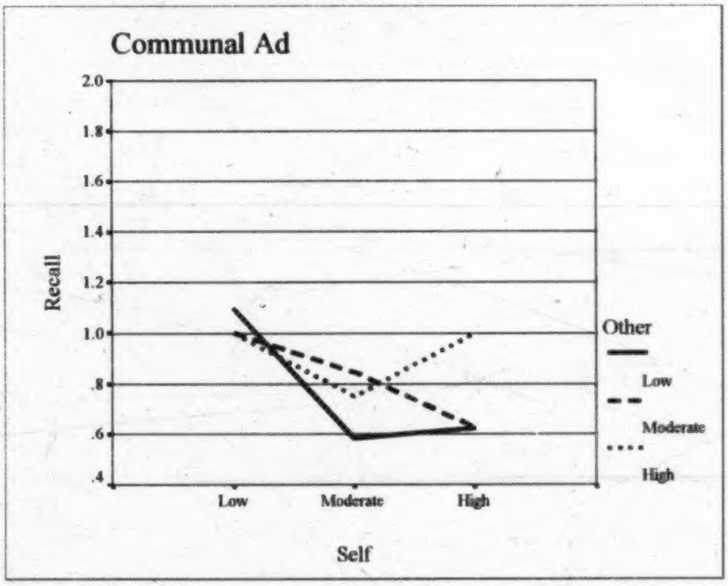


Figure 119
Message by Other at Low Self: Discrimination

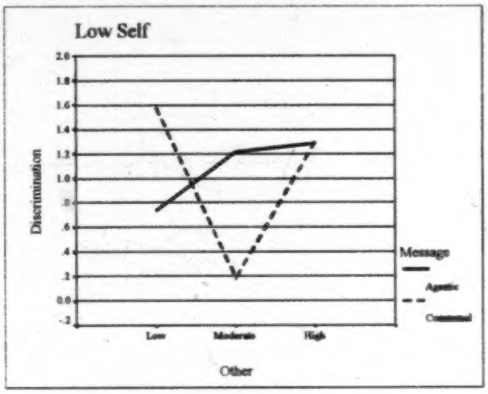


Figure 120
Message by Other at Moderate Self: Discrimination

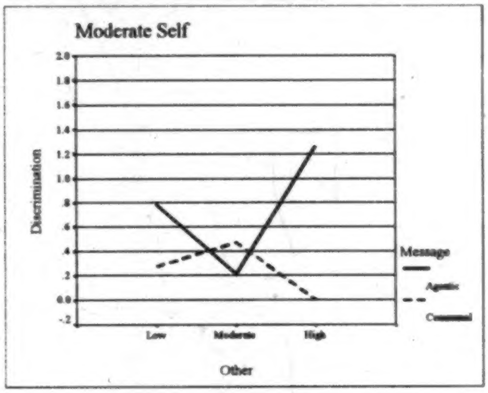


Figure 121
Message by Other at High Self: Discrimination

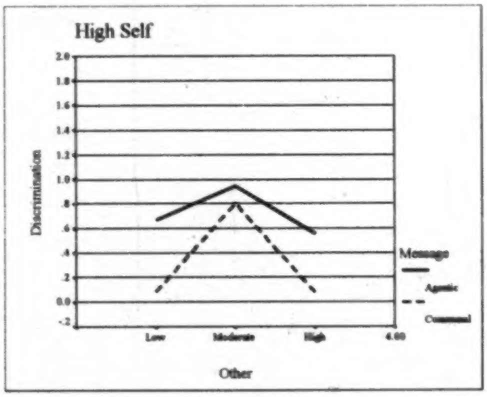


Figure 122
Message by Other at Low Self: Recall

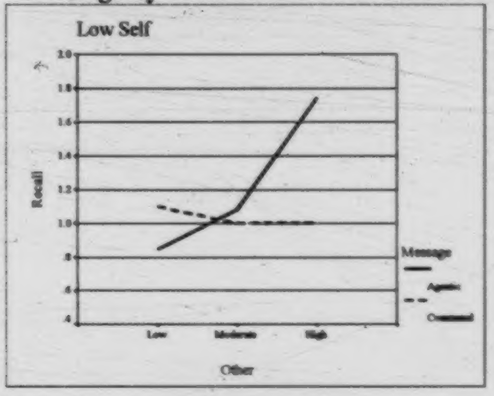


Figure 123
Message by Other at Moderate Self: Recall

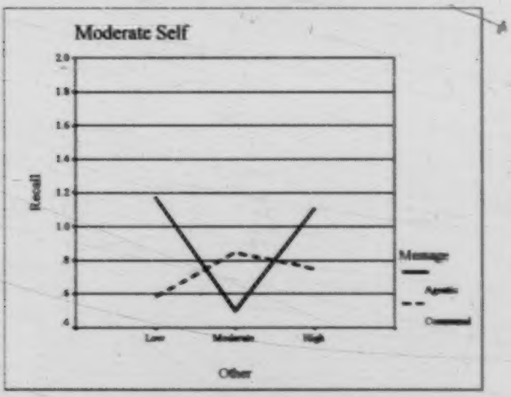
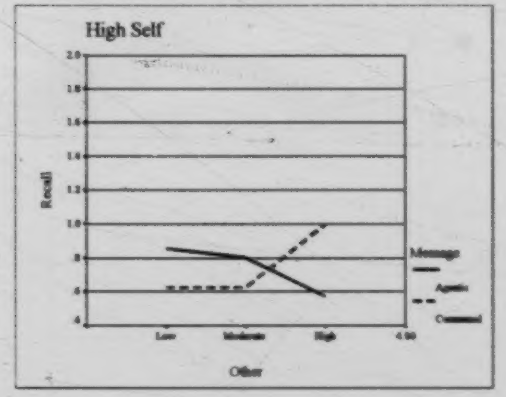


Figure 124
Message by Other at High Self: Recall



APPENDIX 80

Figure 125
Message by Self at Low Other: Discrimination

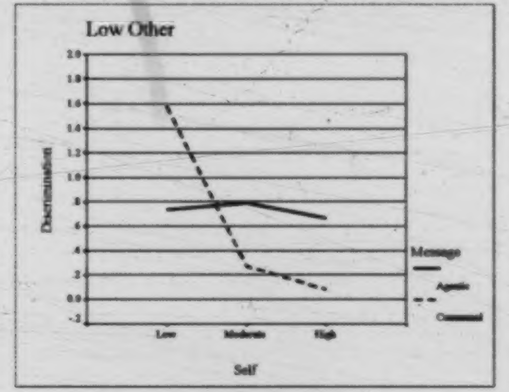


Figure 126
Message by Self at Moderate Other: Discrimination

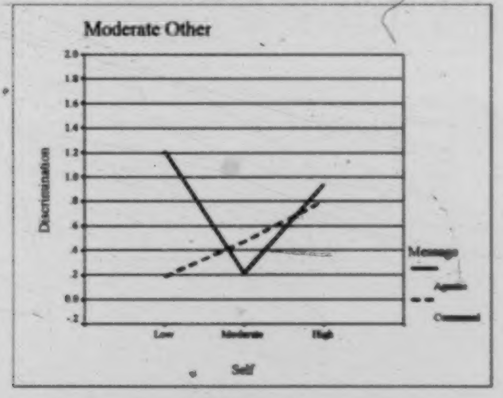


Figure 127
Message by Self at High Other: Discrimination

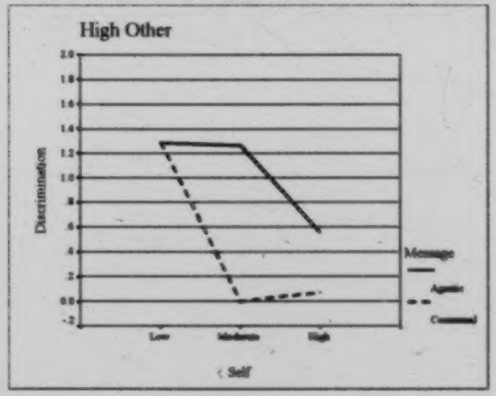


Figure 128
Message by Self at Low Other: Recall

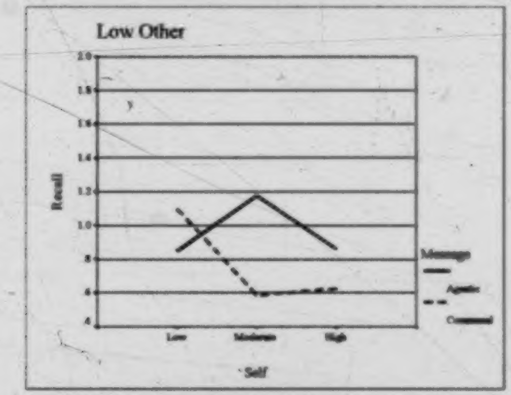


Figure 129
Message by Self at Moderate Other: Recall

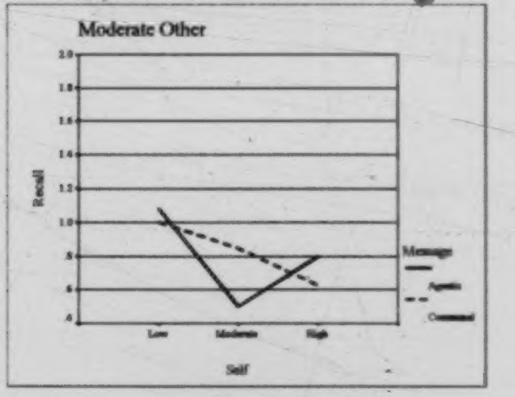


Figure 130
Message by Self at High Other: Recall